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ECONOMIC EFFECTS OF FEDERAL REGULATION OF THE MINNEAPOLIS-ST.PAUL FLUID MILK MARKET

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Production and Marketing Administration
Dairy Branch

Washington, D.C.
May 1952

Marketing Research Report No. 11

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PREFACE

This report is one of a series of studies on regulation of fluid milk markets being prepared in the Research Division of the Dairy Branch, Production and Marketing Administration, U. S. Department of Agriculture. In conducting this study, the author has had the benefit of many helpful suggestions and criticisms from a number of persons who deserve special mention. Foremost among these is the late Dr. Warren C. Waite, Professor of Agricultural Economics at the University of Minnesota, under whose inspiring guidance and direction the major part of this study was conducted. Dr. O. B. Jesness, Dr. E. F. Koller, and the late Dr. Frederic B. Garver, all professors at the University of Minnesota, also maintained an active interest in this study from its inception and made many useful comments and suggestions.

Appreciation is expressed for the unlimited assistance and information given the author by many persons concerned with the Minneapolis-St. Paul fluid milk market, particularly by D. F. Spencer, Market Administrator of Order 73, and E. H. Lowen and H. C. Burkett of his staff; by Harry R. Leonard and George N. Pederson of the Twin City Milk Producers Association; by H. S. Borman of Franklin Cooperative Creamery, Inc., and E. S. Elwell of Northland Milk & Ice Cream Company, both of Minneapolis, Minn.; and by John J. Handy and H. E. Erickson of the health departments of Minneapolis and St. Paul.

Thanks are also due Don S. Anderson and Herbert L. Forest, Deputy Directors of the Dairy Branch, PMA, and Louis F. Herrmann, Chief of the Research Division, Dairy Branch, PMA, for the careful review they gave the manuscript. They, together with H. C. Feddersen and W. G. Sullivan of that Branch, made many helpful suggestions. Other colleagues in the U. S. Department of Agriculture offered useful comments and suggestions at various stages of the study: J. B. McCarthy, O. A. Jamison, H. G. Hirsch, R. W. March, E. S. Harris, J. L. Blum, and D. O. Hammerberg, formerly consultant to the Dairy Branch on research in fluid milk marketing problems.

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The study on which this report is based was made under the authority of the Agricultural Marketing Act (RMA Title II).

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SUMMARY

(1) The twin cities of Minneapolis and St. Paul, Minn., adopted a Federal Milk Marketing Agreement and License on September 2, 1933. Since that time the Twin City market has been under continuous Federal regulation. The market is one of the larger milk-consuming areas of the Nation and is located in the midst of the most important dairy region of the United States. Most of the processing plants in this region are owned or operated by producer cooperative associations, among which there is active competition for volume. As a result of the location of this market, milk prices to consumers are lower there than in most cities, but the problem of establishing proper prices for fluid milk is made more complex. Prices for fluid milk which are more attractive than prices for manufacturing milk induce nearby producers and associations to seek a share of the fluid market.

(2) The Twin City market was seriously disrupted in the early 1930's when prices for manufactured dairy products were low as compared with prices in the local fluid market. The resulting market conflict continued until milk was sold to Minneapolis distributors for as little as 50 cents a hundredweight.

(3) In the initial attempt to stabilize the local fluid market with a Federal program, a marketing agreement-license was used to regulate the fluid milk industry "across-the-board" by setting minimum prices to producers, exact wholesale and retail prices to consumers, and a schedule of fair trade practices for distributors. The terms governing resale prices and trade practices were eliminated by August 1935, when "orders" replaced "licenses" as the national program. The license with its provisions for minimum prices to producers remained in effect until 1944.

(4) Federal Order 73 was put into effect on November 3, 1945. Order 73 regulates the fluid market by requiring handlers to pay producers at least the minimum prices established for two use classes of milk.

(5) Many changes have taken place in the supply, distribution, utilization, and pricing aspects of the Twin City fluid milk market during the period of Federal regulation. Not all these changes were necessarily the result of such regulation. The final chapter of the study discusses those developments of particular significance.

(6) The economic effects of the Federal programs appear to be strongly influenced by the location of the Twin City market in an intensive dairy area, most of the production of which is processed by producer cooperative associations. Under the order, the level of class prices, the privilege of qualified cooperatives to blend net proceeds in paying producers (rather than paying the uniform price), and the remissness of some of the cooperatives in weighing and testing the milk of member-producers not only tended to favor cooperatives in competition with proprietary

handlers buying from nonmember producers, but led the cooperatives to compete vigorously with one another by providing marketing services rather than by cutting prices directly.

(7) The Federal milk order program as applied to the Twin City market has had a certain stabilizing effect desired by producers who requested its issuance, but a number of marketing problems remain. This study analyzes the problems that have arisen in the market, and discusses steps that have been or may be taken to deal with them.

ECONOMIC EFFECTS OF FEDERAL REGULATION OF THE MINNEAPOLIS-ST. PAUL FLUID MILK MARKET

By Alexander Swantz, agricultural economist

I. INTRODUCTION

Purpose of the Study

This study was designed to provide an economic analysis of the effect of Federal milk regulatory programs on the marketing of fluid milk and its products in the Minneapolis-St. Paul, Minn., marketing area. Since 1933, the Federal Government, through the medium of milk marketing agreements, licenses, and orders, has played an increasingly important role in the pricing of milk that is marketed in the major fluid milk consumption centers. As of December 1950, 39 markets were regulated by Federal milk orders issued by the Secretary of Agriculture under authority delegated to him by Congress and upheld by the U. S. Supreme Court. Moreover, the regulatory program is an expanding one, requests being continually received from additional markets for milk orders to replace, modify, or strengthen existing price-determining methods. The transition toward governmental regulation of fluid milk markets has progressed far enough to provide a basis for appraising the effects of these regulatory programs on the marketing structure for fluid milk and its products.

Scope of the Study

This report includes a synopsis of the conditions and problems in the Minneapolis-St. Paul area which led to the adoption of Federal regulations, as well as a description of the provisions of the regulatory programs which were used in dealing with these problems. Changes in the regulatory provisions are described, together with reasons why they were made. An attempt has been made to appraise: (1) The efficacy of the regulatory measures and the techniques and policies of administration in solving these problems; (2) the effects of the pricing provisions of the regulations in terms of the objectives of the enabling act, as amended; and (3) the effects of the regulation upon the consumption, production, and marketing of fluid milk and its products in the Twin City area. Since the amount of seasonal variation in production represents a major marketing problem in the area, an analysis is made of the effectiveness of the milk order in correcting the problem. The study should contribute to a general evaluation of the marketing agreement and order program, and it will provide useful information for those concerned with the Twin City milk order,

Source of Data

Data for the study were obtained from many sources. The information pertaining to the scope and techniques of the Federal programs and to the exact provisions contained in the regulations as promulgated for the local market were obtained from the files of the Dairy Branch, Production and Marketing Administration, United States Department of Agriculture. The official hearing records and the recommended decisions of the Department were examined and analyzed to provide the information which pertains to the proposals advanced by different interests in the Twin City market and to ascertain the economic considerations that influenced the provisions actually incorporated into the order. Information concerning the characteristics of the Minneapolis-St. Paul market, the history and scope of the local and State sanitary regulations, and the conditions in the fluid market which preceded Federal regulation were obtained from personal interviews and from State and U. S. Department of Agriculture publications, the monthly bulletins of the Twin City Milk Producers Association (TCMPA), reports of special investigating committees, published reports of the U. S. Bureau of Census, the files of the municipal court in Minneapolis, from the records of the Minneapolis and St. Paul health departments, and similar sources.

Detailed statistical data for the entire market are lacking for the years prior to 1946. The Twin City Milk Producers Association generally supplied from about 80 to 90 percent of the fluid milk requirements of the market prior to 1946, however, and the records of the association served as a good source of statistical data for that period. For the period since 1945, the records of the market administrator and the Dairy Branch provided a wealth of detailed statistics and information.

The twin cities of Minneapolis and St. Paul, Minn., were among the first four markets to adopt a Federal Milk Marketing Agreement and License under the first program developed by Congress and the United States Department of Agriculture to regulate fluid milk markets. Since that time (September 2, 1933), the Twin City market has been under continuous Federal regulation of one type or another and has utilized or been subject to each distinct type of milk market control that was promulgated. The Minneapolis-St. Paul market covers one of the larger milk-consuming areas of the Nation. At the same time, this market is located in the midst of the most important dairy region in the United States. (See discussion beginning on p.13.) These facts make it desirable to include an analysis of the Twin City market as a part of any attempt to evaluate the historical and economic effects of Federal regulation on the marketing structure for fluid milk and its products.

II. BACKGROUND OF FLUID MILK MARKETING REGULATION

State and Local Regulation

Fluid milk is one of our most important foods from the standpoint of both health and of the amount consumed. At the same time, it is highly perishable, bulky (87 percent water), easily contaminated, and a favorable medium for bacterial growth. Because of its universal use and the necessity for strict sanitation practices in its production and distribution, milk has become the subject of increasing degrees of governmental regulation at local, State, and national levels. The earliest regulation of the milk industry was concerned primarily with protecting consumers against fraud and adulteration. The scope of regulation was later broadened to cover other factors affecting health and sanitation. Today, therefore, nearly every large city in the United States has established sanitary and quality requirements which must be met before fluid milk can be distributed to consumers. (4) 1/

The characteristics of whole milk, and the local application of health and sanitation regulations, create serious problems in the marketing and pricing of fluid milk. Generally speaking, each consumption center has its separate, localized source of supply, and prices are determined, within limits, by negotiation rather than by the interplay of competitive forces operating on a more Nation-wide basis. Consequently, fluid milk producers are closely identified with an individual market and with an independent pricing system susceptible to a certain degree of local influences.

Until the early 1900's, these price negotiations were between the farmers and small retail distributors, but farmer-distributors furnished keen competition for the small retail distributors and thereby played an important role in setting the price level. As the population grew, the demand for milk increased. The higher health standards which were imposed during this period necessitated more expensive equipment for pasteurization, bottling, and distribution, and milk distribution became a specialized business that required large capital outlays. Under these conditions, dealers became larger and fewer in number. To some extent, the trend toward specialization applied to milk production on farms, and farmers shifted from being farmer-distributors to producers of milk for sale to distributors. However, farms remained relatively small and numerous. The result was that distributors were often in a powerful position to force producers' prices downward by pitting producers and small producer groups against one another. In other instances, distributors were able to resist producers' demands for price increases even though farmers' costs were increasing.

The formation of farmer cooperatives was encouraged by the Clayton Act of 1914 and the Capper-Volstead Act of 1922 as the best method of strengthening the bargaining position of the individual farmers in their

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1/ Underscored numbers in parentheses refer to Literature Cited, p.209.

price negotiations with large metropolitan distributors. The cooperative marketing acts passed by the Minnesota State Legislature in 1919 and 1923 gave additional impetus to this movement. Many important producers' cooperatives, including the Twin City Milk Producers Association, had been formed by the 1920's, and they succeeded fairly well in equalizing the bargaining power of the producers, as against the interests of the distributors, and of the employees' unions, which had also become interested parties by that time.

During the period from 1914 to 1930, the producers' cooperatives developed such techniques as the "classified price plan" and pooling arrangements to improve the pricing of milk and to provide for a more equitable distribution of the returns to their producer-members. Although these new methods became fairly well established as an industry pattern, they tended to break down because of the inherent advantages which might accrue to producers and dealers who refused to participate in the plans. Dealers who refused to participate in the plan usually purchased milk from non-member producers on a flat price basis at prices that were the same or even slightly higher than the blended prices returned to producer-members by the cooperative associations. The dealers in turn usually purchased only enough milk to supply their fluid requirements, which made the net cost of milk to them substantially lower than the Class I price negotiated by the producers' cooperative. The fact that non-cooperators could easily nullify the efforts of the cooperatives was a serious weakness in the fluid milk marketing structure of that time, although it did not become too apparent until the early 1930's. During the widespread depression of that period, producers' fluid milk prices declined sharply in all markets, including metropolitan markets serviced by strong producer cooperatives. The prices for manufactured dairy products also declined sharply during this period, and producers of manufacturing milk began to exert special efforts to sell at least a part of their production in nearby fluid markets. The distributors and the unions were able to maintain their margins and their wage rates relatively well, with the result that the brunt of the price declines had to be borne by the farmers in the form of sharply lowered milk prices. The fluid markets became disorganized and chaotic, with the result that producer groups demanded some sort of governmental regulation.

During 1932 and 1933 many State governments undertook various programs designed to regulate milk prices in a way that would raise and stabilize returns to farmers. These programs provided for the use of classified price and pooling plans similar to those installed by the farmers' cooperative associations during the 1920's. They all fixed at least minimum prices to producers, and several States also provided for fixing the price of milk to consumers. Although 26 States did enact milk control legislation of one type or another, Minnesota never undertook a program to deal with the problem.

Federal Regulation

Congress sought to relieve the effects of the depression upon the agricultural sector of the economy by passing the Emergency Agricultural Relief Act (Public Law No. 10, 73d Cong.), in 1933, Title I of which is commonly known as the Agricultural Adjustment Act of 1933. This emergency legislation was passed to help correct the disparity that existed, at that time, between the prices for agricultural commodities and the prices of articles that farmers bought, in the belief that the national emergency could be corrected in part by increasing the purchasing power of farmers. This law provided authority for the Secretary of Agriculture to regulate the marketing of milk, as well as other farm products, in such a way as to stabilize the markets and increase returns to farmers.

The act empowered the Secretary of Agriculture to enter into marketing agreements with persons or groups who handled, in inter-state commerce, any agricultural commodity. As later promulgated, the marketing agreements for milk contained: (1) A schedule of minimum prices which had to be paid producers for milk; (2) a schedule of exact resale prices to consumers; and (3) a list of unfair trade practices that were to be outlawed. These agreements could be enforced only on those parties who signed them, however, hence the Secretary was further authorized to issue a license which imposed the terms of the agreement upon all handlers in the market. The entire authority for the program was contained in two short paragraphs of the enabling act, which left broad discretionary powers to the Secretary as to what might properly be included in such marketing agreements and licenses. For the most part, however, the Secretary incorporated into the marketing agreements and licenses such provisions with respect to classification of milk, minimum class prices, and pooling of returns as continued the marketing practices established earlier by negotiation between the cooperatives and the distributors. The request for regulation of a market originated with the cooperative association or associations of producers supplying the market, and it was the general policy of the U. S. Department of Agriculture to adopt the procedures recommended by such organizations whenever an agreement-license was issued.

There were numerous violations of the resale pricing provisions of this first program, however, and in January 1934, the Secretary of Agriculture abandoned them and canceled the marketing agreements then in effect.

By 1935 it became clear, after a series of adverse court decisions, that the legislative authority for the marketing regulation would have to be clarified and strengthened before the producer price-fixing aspects of the program could be enforced by law. This was accomplished by amending the act on August 26, 1935. The amendment provided for the issuance of "orders" instead of "licenses," and prescribed the use of public hearings to receive evidence upon which the promulgated orders had to be based. It also set forth the terms that could be included in an order and the procedures that had to be followed in effectuating an order, and permitted cooperation with State authorities in the administration of milk regulatory programs.

In addition, the amendment required that in an order the minimum prices payable by handlers had to be fixed on a classified price plan and the resultant returns pooled before being distributed to producers.

Shortly after the amendment to the act became effective, its production-control and processing-tax provisions were declared unconstitutional by the U. S. Supreme Court (U.S. v. Butler, 297 U. S. 1, January 6, 1936). One result of this action was to create a legal uncertainty as to the validity of the entire act, including those sections which authorized the milk marketing agreement and order program. The courts ruled later that these provisions were not affected by the January 1936 decision, but Congress, in the meantime, reenacted and amended these provisions into a separate statute known as the Agricultural Marketing Agreement Act of 1937. This act, as amended, provides the authority for the present-day Federal milk order program.

Several of the changes effected by the 1937 act have been quite substantial. One change adopted a broader definition of interstate commerce and another included an authorization for the alternative program of arbitration and mediation in settling milk disputes. Most important, perhaps, was the provision authorizing additional standards to guide the Secretary of Agriculture in the fixing of appropriate minimum prices to producers. This change permits the Secretary of Agriculture to replace the parity price concept with a broad and flexible standard whenever he determines, from the evidence received at a public hearing, that milk prices at the parity level--

> "are not reasonable in view of the price of feeds, the available supplies of feeds, and other economic conditions which affect market supply and demand for milk and its products in the marketing area to which the contemplated agreement, order, or amendment relates. . . ."

The act provides that under such circumstances the Secretary of Agriculture--

> "shall fix such prices as he finds will reflect such factors, insure a sufficient quantity of pure and wholesome milk, and be in the public interest."

This authority permits milk prices to be related to general economic factors in that particular area, its intent being to provide a producer price that will tend to equate supply and demand over a reasonable period of time after proper allowances for seasonal and cyclical fluctuations in production and consumption. In actual practice, this new standard has replaced the parity price concept in the determination of proper levels for producer prices under Federal milk orders.

Procedure for the Promulgation of a Federal Milk Order

Request for Action

A request for a Federal order to fix minimum prices for milk is initiated by persons in the marketing area. Their application for Federal participation usually is accompanied by a proposed marketing agreement and order; this proposal later serves as the basis for discussion at the public hearing. In actual practice, requests and proposed orders nearly always come from a cooperative association of fluid milk producers that feels it needs the assistance of the Secretary of Agriculture to settle certain marketing problems or to obtain a satisfactory price for milk of its members.

Preliminary Investigation

The U. S. Department of Agriculture makes a preliminary investigation of conditions in the market to determine: (1) The presence and degree of interstate commerce involved in the marketing of milk in that area; (2) whether the problems involved come within the jurisdiction of a Federal milk order; (3) whether the petitioners and others in the market can support their proposal at a public hearing; and (4) whether the provisions of a Federal milk order could correct the problems involved. These determinations usually are made after conferences in the marketing area with the producer representatives and handlers concerned. If the Assistant Administrator for Marketing of the Production and Marketing Administration determines, on the basis of fact from the preliminary investigation, that the proposed order would tend to effectuate the declared policy of the act, he issues a notice of the time and place when a public hearing will be held on the proposal. This notice is published in the Federal Register at least 15 days prior to the opening date of the hearing. The time interval is to provide interested parties with an opportunity to prepare testimony and make arrangements to appear at the hearing.

Public Hearing

The public hearing is held at a convenient location in the marketing area where the proposed order will apply, and is presided over by a hearing officer of the U. S. Department of Agriculture designated by the Secretary of Agriculture. In some large markets, several hearings are held in different locations to afford all interested parties an opportunity to testify for or against the order or any of its specific proposals. The hearing officer administers oaths, receives or excludes evidence and testimony, and generally conducts the meeting in a manner conducive to liberal questioning of witnesses and presentation of testimony. The hearing usually opens by having an economist of the Department present a compilation of statistical information concerning the market; these data are made available for the use of all persons at the hearing.

All persons submitting or favoring proposals are given an opportunity to testify in support of them; persons opposed to them are likewise given an opportunity to so testify. Producers, handlers, and representatives of Federal, State, and local governments are all active participants as to: (1) Whether there is a need for regulation; and (2) what particular terms or conditions should be incorporated into an order that might be issued. All parties, including consumers, are accorded an opportunity to testify, but in most areas very few groups, other than producers and distributors, have actually participated in hearings. All testimony is recorded by a reporter, and at the conclusion of the hearing the hearing officer specifies a time period in which interested parties may file briefs of proposed findings or arguments based upon the evidence in the hearing record. The terms of any milk order promulgated must be based upon the facts or evidence adduced, including evidence contained in exhibits admitted in evidence and matters of which official notice has been taken at the public hearing: Provided, That interested parties have been given adequate notice and opportunity to show that the evidence was not factual or was erroneously noticed.

The Recommended Decision

The hearing record is analyzed after the time for filing briefs has expired, and the Assistant Administrator for Marketing of the Production and Marketing Administration files a recommended decision with the Hearing Clerk, based upon the analysis of the evidence in the hearing record. This recommended decision contains the opinion of the U. S. Department of Agriculture as to the need for an order, and includes a discussion of the issues and the reasons for the conclusions reached. If this decision recommends the issuance of an order, it also contains a statement as to the need for an order and to the effect that the milk concerned is in the flow of inter-state commerce. It then presents the detailed provisions of the order as proposed for the market, together with evidence and reasons for such provisions. This preliminary statement on the situation is published in the Federal Register, and interested parties are given an additional period of time, more than 20 days in some cases, in which to take exception to any particular provisions of the recommended order.

The Final Decision

After the time elapses for the filing of exceptions to the provisions contained in the recommended decision, the hearing record, and all briefs, arguments, and exceptions are reviewed and a final decision and a marketing agreement and order are issued by the Secretary of Agriculture. This final decision includes a statement of the Secretary of Agriculture's findings and conclusions together with a statement of the facts and reasoning behind them and each of the provisions of the marketing agreement and order. The Secretary is also required to make public his rulings and reasoning upon each exception filed by interested parties against the recommended decision of the Assistant Administrator for Marketing.

After the marketing agreement is approved by the Secretary of Agriculture, copies are mailed to eligible handlers for their signature. If at least 50 percent of the handlers (who also handle at least 50 percent of the volume of the milk to be regulated) sign the marketing agreement with the Secretary, it is issued immediately. The identical terms in the marketing agreement are then made binding, upon all handlers in the market, by the issuance of a Federal milk order. If the handlers of at least 50 percent of the milk fail or refuse to sign the marketing agreement, the Secretary may still issue the order without an agreement if he finds that: (1) The failure of the handlers to sign the agreement will tend to prevent the effectuation of the declared policy of the act; and (2) the issuance of a Federal milk order is the only practicable method of achieving that end.

Because most handlers generally fail or refuse to sign the marketing agreements, they have not played an important role in the milk regulatory program. Milk orders contain identical provisions and are binding upon all handlers whether signatories or not; hence, they have been used as the principal method for regulating fluid milk handlers in the federally regulated markets. In any event, no Federal order can be instituted until it has been approved in a referendum by two-thirds of the voting producers (by number or volume of production) who served the marketing area during a representative period of time, usually a recent specified month. If the order specifies an individual-handler pool, it must be approved by 75 percent of the producers supplying the market. The enabling act permits a qualified cooperative association to cast the vote for its entire membership as a unit. The order then becomes binding upon all handlers in the market after it has been approved by the requisite number of producers and published in the Federal Register.

Amendments to a Federal Milk Order

Since it is desirable to be able to adjust orders rather promptly to meet changing market conditions, provision has been made to permit the issuance of an amendment in less time than that required for the issuance of an original order. If the proposed amendments deal with any problem other than extending the marketin area, a public hearing may be held any time after the third day following publication of the notice in the Federal Register. In addition, the Secretary of Agriculture is permitted to issue a final decision directly after the close of the hearing if following the regular routine would delay the amendment enough to hinde the orderly adjustment to the new market conditions. Amendments to an operating order require the same degree of producer approval as did the original order. Except for these differences, amendments must be promulgated by the same general procedure required for an original agreement or order.

Suspension and Termination of an Order

The enabling act provides the Secretary of Agriculture with the emergency power to suspend, without a public hearing, any order or provision of an order when that action is necessary to carry out the purposes of the act. The change, however, must be one that can be effected by an omission of text from the order. It has been used in several markets to forestall the imposition of a reduction in minimum prices to producers. In practice, the Secretary of Agriculture uses this power only after receipt of an urgent request from persons in the market and afte an investigation indicates that suspension of an order provision is the most practical method of accomplishing the purpose. The Secretary of Agriculture may terminate an order if he finds that it either obstructs or does not effectuate the declared policy of the Agricultural Marketing Agreement Act, as amended. The act also requires that an order must be terminated at the request of a majority of th producers who produce a majority of the milk.

Operation of Federal Milk Orders

Although the Federal milk regulatory program permits a high degree of flexibility in formulating a regulation to fit local conditions, all Federal orders fixing minimum prices for producer milk contain certain uniform provisions and are administered through certain prescribed operating procedures.

Findings and Determinations

The legal instrument known as the order usually contains an opening section devoted to the findings and determinations of the Secretary of Agriculture with respect to the need for an order, the pricing standards used in fixing the level of minimum prices, and the statement that the order, as promulgated, has been approved by the required number of milk producers.

Definitions

In order to specify clearly which handlers are to be regulated and which producers are to benefit from the operation of the milk order, an early section of the regulation is devoted to a definition of such key terms as "handler," "producer," "producer-handler," and "marketing area." The definition of "marketing area" delimits the territory within which the regulation applies, and usually includes the contiguous towns, cities, and minor civil divisions normally served by distributors located in the market. "Handlers" are all the fluid distributors and processing plants subject to the pricing provisions of the order, and "producers" are those dairy farmers supplying the marketing area who are to receive the minimum prices and the marketing services specified in the order. The exact scope of each such definition, however, will vary as between markets.

Market Administrator

Each order provides for the appointment, by the Secretary of Agriculture, of an agent to administer the terms and provisions of the regulation as it applies to the marketing area. This agent, known as a market administrator, receives reports from handlers relative to their receipts and utilization of milk, and is responsible for the auditing of handlers' books and records to insure that farmers are paid correct prices for all the milk shipped into the market. His office also calculates and announces the minimum prices for each class of milk and the uniform producer price for the market or for each handler, according to the formulas specified in the order.

As a further protection to farmers not members of a qualified producers cooperative, the market administrator is responsible for check weighing and testing the milk as it is received at plants of handlers. The cost of performing this latter service is borne by the producers receiving the service, while the general administrative work of the entire order is financed by an assessment levied against the handlers subject to the regulation. The rate of assessment is established by the order, and usually varies in amount from 2 to 5 cents per hundred pounds of milk, depending on the size of the market and the amount of service rendered. Data submitted by individual handlers are confidential information, but the information so obtained can be combined and presented in a way that is beneficial to the entire market. The market administrator is subject to removal from office at the discretion of the Secretary of Agriculture.

Reports of Handlers

An integral part of the regulatory program is the requirement that handlers submit monthly reports to the market administrator. These reports show the amount of milk received from producers and from other sources and the utilization of this milk in the different classes, as well as other pertinent data. After the reports, and the dealers' records, have been audited by the market administrator, it is possible to determine whether handlers have, in fact, reported all their purchases of milk, whether the milk is classified accurately, and whether producers have been paid the applicable uniform prices. The reports are submitted on forms and in a manner prescribed by the local market administrator, and they may serve as a basis for disciplinary action in those cases where handlers violate provisions of the regulation.

Classification of Milk

As required by the enabling act, all Federal milk orders establish a classification plan which specified the various uses for fluid milk and cream and assigns them a classification number. Fluid milk and fluid milk drinks, for example, are usually placed in Class I. Cream may be in Class I or II, the particular class depending on local conditions. Production that goes into ice cream, butter, or cheese is placed in Classes II, III, or IV, depending on the complexity of the marketing structure in each regulated area. The objective is to separate the various uses of milk into classes according to its relative value to handlers (and consumers), and price it accordingly; that is, a higher minimum price for Class I than for Class II.

Minimum Class Prices

Each order then sets forth the minimum price or a formula for determining minimum prices for each class of milk. Although the price for milk in any manufactured class is always tied to the price for manufactured dairy products or fluid cream or prices paid farmers for milk used in such products, the formulas for determining the price of Class I milk vary widely from market to market. Some formulas tie the price of Class I milk to the price for milk in manufacturing uses; others base it on other indicators of general and local economic conditions. The differential of the Class I price over the price for milk in manufacturing uses varies, of course, as between markets and frequently within a market during different months of the year. The price established applies to milk of a standard butterfat content delivered either f.o.b. the market or to a specified distance from the market. The order may also provide for "butterfat" and "location" differentials which vary the minimum price up or down to make adjustment for milk that contains an amount of butterfat different from the standard, or that is delivered to receiving stations at specified distances from the market.

Uniform Prices to Producers

Federal milk orders require the operation of a "pooling" plan to insure that each producer receive a price uniform with that paid other producers supplying the same handler or the same market, depending on the type of pool adopted.

Under a "market-wide" pool, the total monetary returns from the sale of milk in the entire marketing area is divided by the total amount of milk shipped into the area (and subject to the order), and all producers are paid the same "uniform", or blended, price a hundredweight for their milk shipments, subject to location and butterfat differentials. With an individual-handler pool, the total value of milk delivered to each handler is divided by the total amount of milk delivered to that handler, and all producers supplying him are paid the same "uniform", or blended, price a hundredweight of milk of the same grade and test. Under the latter pool, producers of milk of the same grade and test supplying one handler receive a price different from that paid producers supplying another handler if the handlers differ significantly in the proportion of milk used in the different classes.

As in the case of minimum class prices, the "uniform" price to producers is based on milk of a standard butterfat content delivered to a specified point in the market. The uniform prices are modified for each producer, because of the differences in the butterfat content of the milk delivered by individual producers and the distances from the market at which the milk is delivered to handlers. These are known as "butterfat" and "location" differentials to producers. Some other types of differentials also are permitted, such as "volume," "market," and "quality" differentials.

Other Provisions

The remainder of an order contains provisions designed to make effective the sections just examined, and commonly govern such practices as the time and method of making payments to producers, the amount of the assessments for administration of the order and for performance of the marketing services, and the conditions under which the order can be suspended or terminated. Less frequently, orders contain provisions governing the entry of new producers into a market or plans designed to influence seasonality of milk supplies.

III. THE TWIN CITY FLUID MILK MARKET

The Twin Cities of Minneapolis and St. Paul are in east-central Minnesota at the head of navigation on the Mississippi River. These cities form a metropolitan trade center that serves Minnesota, North Dakota, South Dakota, northern Wisconsin, and parts of Nebraska, Iowa, Montana, and Wyoming. Minneapolis, using the power developed at St. Anthony Falls, has become an important industrial city, specializing in flour milling, lumbering, and light industry. On the other hand, St. Paul, located on more navigable waters, has developed into a city of trade and commerce, specializing in wholesaling and jobbing. Although the two cities are separate political entities, they form a single metropolitan fluid milk market which generally includes the area within a 15-mile radius of a central point between them. Figures from the Bureau of the Census show that in 1950 the population of this area was 1,060,792 persons--517,277 residing in the city of Minneapolis, 309,474 in the city of St. Paul, and 234,041 in contiguous suburbs. The population is mostly of North European extraction, the Swedish, Norwegian, German, and Irish nationalities predominating, and dairy products have always formed an important part of the diet of these people.

Supply

A unique characteristic of the Twin City market is its location in the center of an intensive butter-producing area, with little or no competition from other cities for available milk supplies. The New York and Boston markets draw milk supplies from areas over 300 miles away, whereas within 50 miles of the center of the Twin City area 6 to 8 times as much milk is produced as is consumed for fluid uses (table 1). Other estimates show that within a 100-mile circle of the Twin Cities about 20 times as much milk is produced as is required for fluid purposes. As a result of this unique situation, milk prices to consumers are lower in Minneapolis and St. Paul than in most other cities, but the pricing problems involved in establishing proper quality and seasonal price differentials between fluid milk and milk used in manufacturing dairy products are made more important and more complex. Too small a price differential, when added to stringent health regulations, will induce producers to direct milk into manufacturing uses to the disadvantage of the fluid market; relatively attractive prices, on the other hand, can easily induce nearby producers to seek a share of the higher fluid prices.

This vast supply of milk always posed a problem to local fluid producers because of the ease with which it could be shipped into the Twin City market. This was particularly true during the period prior to December 1, 1950. Since that time, however, the adoption of the Grade A ordinance in Minneapolis, and its observance in St. Paul, have limited the amount of milk immediately available but not regularly sold in the market

Table 1.—Number of cows milked, production of milk within specified surrounding areas, and estimated consumption of fluid milk in Minneapolis-St. Paul, Minn., 1939 and 1944

Year	Estimated consumption of fluid milk 1/	Production of milk in Minneapolis-St. Paul area within-- 2/		Cows milk in Minneapolis-St. Paul area within-- 3/	
		0-50 mile radius	0-100 mile radius	0-50 mile radius	0-100 mile radius
	1,000 pounds	1,000 pounds	1,000 pounds	Number	Number
1939	231,384	1,826,813	5,404,296	337,743	1,060,265
1944	324,503	2,081,251	5,980,495	378,048	1,158,271

1/ Estimate of market administrator, Minneapolis-St. Paul market, based on actual sales of TCMPA to distributors, plus estimate of volume supplied by other producers and by distributors' own farm production.

2/ Calculated by multiplying gallons produced, as reported in county data in Agricultural Census of 1940 and 1945, by 8.6 lbs.

3/ Agricultural Census of 1940 and 1945.

to that available at a number of Grade A plants in nearby Wisconsin—about 600,000 pounds per day during the months of short supply. This 600,000 pounds is equal to about 53 percent of daily Class I usage (in 1950). Most of these plants have supplied milk to the Twin City market in periods of short supply during the last few years. In addition, other plants in Wisconsin and Minnesota are developing supplies of Grade A milk in order to qualify for eventual entry into the local market. The supply situation means, then, that the market can rather easily be burdened with a surplus or threatened with a shortage, depending upon current pricing relationships.

Type-of-farming areas

Figure 1 shows the location of the supply area for the Twin City market as well as the boundaries of the metropolitan consumption area, as delineated in the provisions of Federal Milk Order No. 73. The milk supply for the marketing area is produced in four distinct type-of-farming areas in Minnesota (fig. 2) and one in Wisconsin, all lying within a general 50-mile radius of the Twin Cities and in all of which the sale of dairy cattle and dairy products is a principal source of farm income.

The topography of these type-of-farming areas varies from level to gently rolling land, although some of the land in Wisconsin and in area 1 of Minnesota is more rolling and rougher. Dairy farms are by far the most important type of farm in this area and provide the largest source of cash farm income. The sale of hogs and poultry is an important source of supplementary income. About one-half of the farms of the area that are located in Minnesota and about 75 to 80 percent of those located in Wisconsin

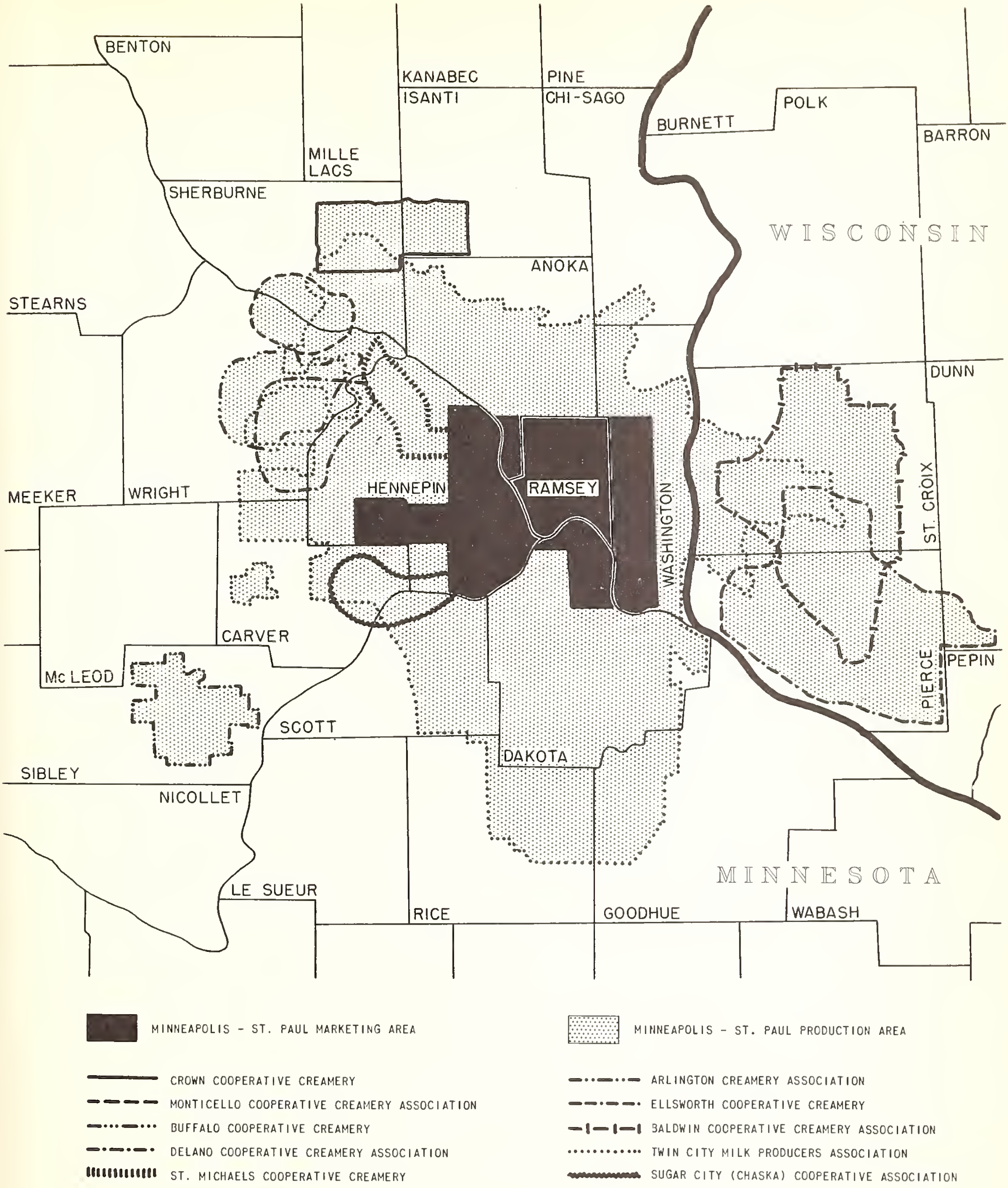
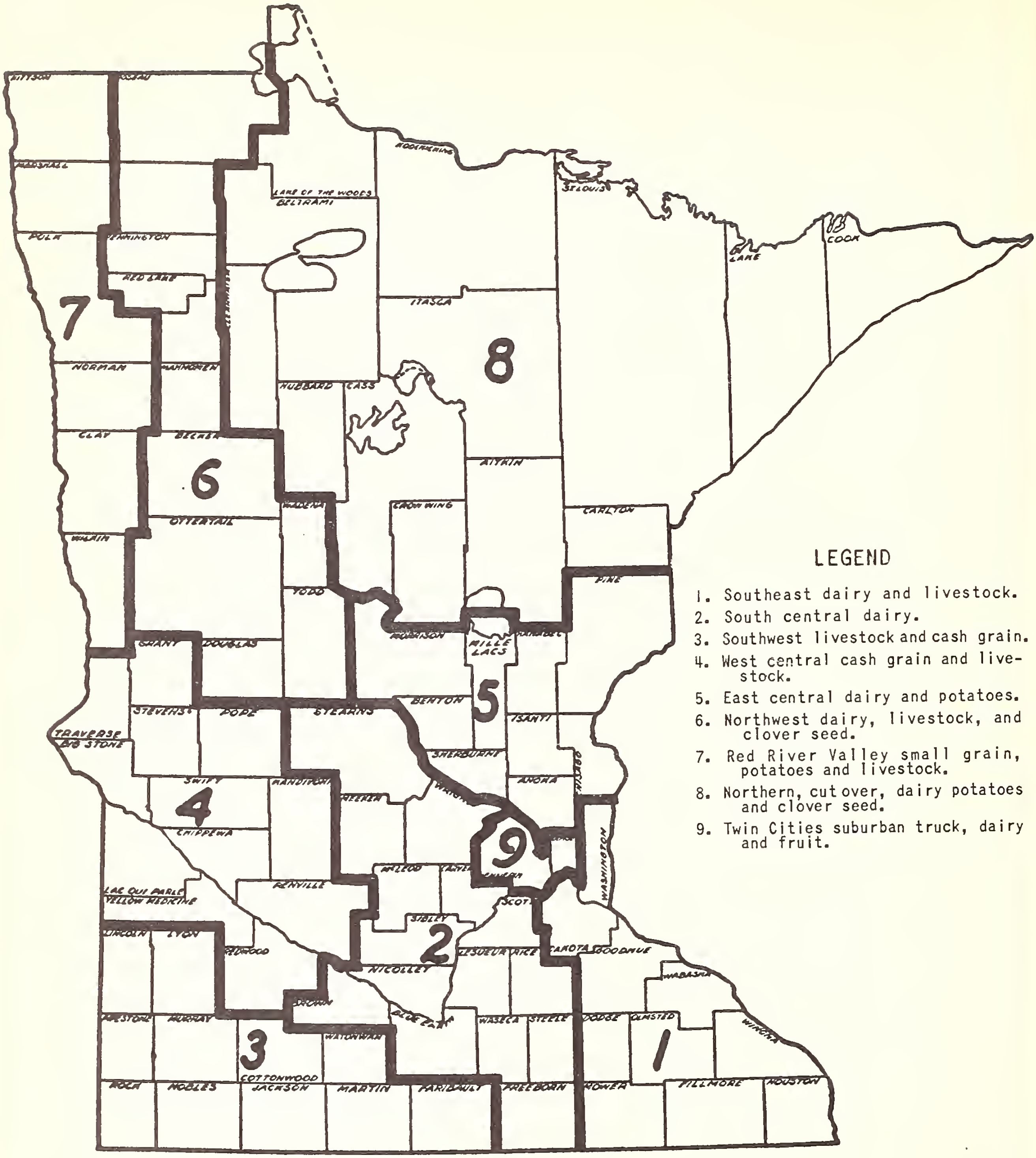

BENTON
KANABEC
PINE
ISANTI
CHI-SAGO
BURNETT
POLK
BARRON
MILLE LACS
SHERBURNE
WISCONSIN
ANOKA
STEARNS
DUNN
HENNEPIN
RAMSEY
WASHINGTON
ST. CROIX
MEEKER
WRIGHT
CARVER
McLEOD
PIERCE
PEPIN
SCOTT
DAKOTA
SIBLEY
NICOLLET
MINNESOTA
LE SUEUR
RICE
GOODHUE
WABASH
MINNEAPOLIS - ST. PAUL MARKETING AREA
MINNEAPOLIS - ST. PAUL PRODUCTION AREA
CROWN COOPERATIVE CREAMERY
MONTICELLO COOPERATIVE CREAMERY ASSOCIATION
BUFFALO COOPERATIVE CREAMERY
DELANO COOPERATIVE CREAMERY ASSOCIATION
ST. MICHAELS COOPERATIVE CREAMERY
ARLINGTON CREAMERY ASSOCIATION
ELLSWORTH COOPERATIVE CREAMERY
BALDWIN COOPERATIVE CREAMERY ASSOCIATION
TWIN CITY MILK PRODUCERS ASSOCIATION
SUGAR CITY (CHASKA) COOPERATIVE ASSOCIATION

Figure 1. Location of the Minneapolis-St. Paul, Minn., fluid milk marketing area and supply area. (The supply area for the market is made up of the supply areas of 9 producer cooperative associations that served the market in 1950 and the area of 1 association that was preparing to enter the market in 1950.)



LEGEND

1. Southeast dairy and livestock.
2. South central dairy.
3. Southwest livestock and cash grain.
4. West central cash grain and livestock.
5. East central dairy and potatoes.
6. Northwest dairy, livestock, and clover seed.
7. Red River Valley small grain, potatoes and livestock.
8. Northern, cut over, dairy potatoes and clover seed.
9. Twin Cities suburban truck, dairy and fruit.

Figure 2. Type-of-farming areas in Minnesota.

Source: Division of Agricultural Economics, University of Minnesota are classified as "dairy farms." These dairy farms average about 130 to 150 acres in size, except around the Twin Cities (area 9) where the average size is about 100 acres. Prior to 1940 most of the milk produced in this area was manufactured into butter and cheese by numerous creameries and cheese factories. In spite of the trend toward greater shipments of fluid milk and larger processing plants, there were still approximately 146 creameries and cheese factories in this general 50-mile radius in 1949 (fig. 3). A large part of the tillable land is in permanent pasture of fairly good productivity, the remainder of the land being devoted largely to the production of hay and feed grains. Most of the crops produced are used on the farms for livestock feed.

Producers' Cooperative Associations

Another significant aspect of the supply side of the local fluid milk market is the overwhelming importance of milk producers' cooperative associations, the most important of which is the Twin City Milk Producers Association. Available data indicate that from 1923, excepting 1932, to the present the volume of milk supplied by the TCMPA to all the large distributors in the two cities has amounted to between 80 and 90 percent of the total milk consumed in the market. Prior to 1946 and particularly before 1933, many farmers who were not members of cooperatives had fluid milk outlets in the Twin Cities. Some of them sold raw milk to distributors and others distributed their own farm production directly to consumers. Table 12 shows data on the growing importance of cooperatives for the period beginning January 1946. More than 1,000 nonmember producers had outlets in the Twin City fluid market in November 1945. As a result of their gradual withdrawal from the market or their absorption into cooperative groups their number had been reduced to a mere 43 during 1950. By 1950 cooperatives were serving 99.2 percent of the producers and supplied more than 98 percent of the volume of producer milk (exclusive of producer-handler volume) shipped into the Twin City market.

Twin City Milk Producers Association. This association was formed on January 2, 1917, by a consolidation of several small local fluid milk cooperatives. Local dairymen had long been dissatisfied with the manner in which they were forced to deal with Twin City distributors when selling their fluid milk production, and, in an attempt to change these conditions, they had formed small local cooperatives among the producers in their immediate vicinities. These local associations were largely ineffective, however. Dealers would brush aside the demands of one cooperative by pointing out that similar associations in other nearby sections stood ready to furnish the needed milk supplies for the prices designated by the dealer group. The farmers also objected to the selling of their milk on the basis of dealers' weights and tests, and the protests were carried in increasing numbers to the county agricultural agents in adjacent counties. After several meetings in 1916, farmers and representatives of local cooperative associations voted unanimously to form a new central cooperative that would be known as The Twin City Milk Producers Association. It began selling milk as a "bargaining" association on April 1, 1917.

This pattern of cooperative organization was springing up in many sections of the United States, partly as a result of the general policy of State and Federal agencies alike to encourage cooperative organizations

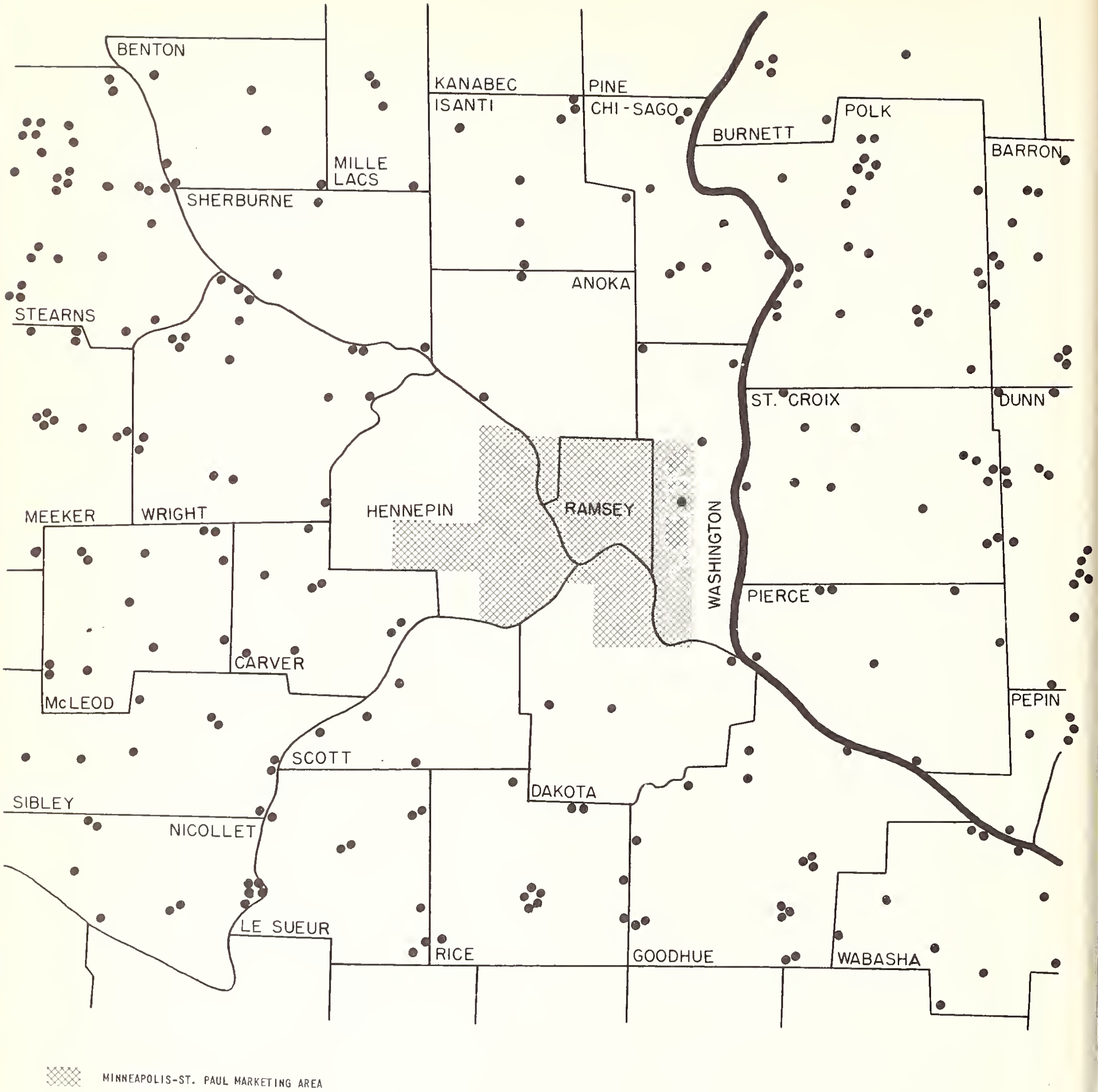


Figure 3. Location of the Minneapolis - St. Paul fluid milk market in relation to the locations of 260 dairy manufacturing plants in nearby areas of Minnesota and Wisconsin.

Source: Directors of Dairy Manufacturing Plants Published by the Departments of Agriculture, Minnesota and Wisconsin, 1949-50.

as one means of strengthening the economic and bargaining position of the individual farmer. This policy was evidenced at the national level by the exemption of certain forms of cooperative organization from the provisions of the Clayton Act of 1914, followed by more positive action in the subsequent passage of the Capper-Volstead Act of 1922, followed in turn by the use of cooperatives as an integral part of the Federal Farm Board program in 1929 and by the special provisions relating to cooperatives in the Grain Futures Act, the Commodity Exchange Act, and similar measures. During the period prior to 1922, however, many States, including Minnesota, also had laws that forbade any combination of persons to monopolize markets, restrain trade, or attempt to influence the prices for its products. As a result, these cooperatives were under "heavy fire" for sometime, and several of the larger agricultural cooperatives were indicted as combinations in restraint of trade, as price fixers, and as monopolies against the public interest. The TCMPA was no exception. Twin City newspapers launched bitter attacks against the association.

Most of the newspapers represented the cooperative as an organization designed to destroy private property. The entire executive committee of the association was indicted under the antitrust laws of the State of Minnesota on the basis of its actions to organize farmers into the cooperative and negotiate with distributors for a price for milk. The association charged in its monthly bulletin that "This indictment was instigated by the dealers in the twin cities" (6) and that it also had been made into a political issue in Hennepin County. (7)

The association's officers were cleared of all charges on September 17, 1919, after 2 years of indictment, partly as a result of jury action in Chicago which acquitted officers of a milk marketing cooperative of similar charges. A few years later public sentiment and Congressional action had changed, and cooperatives were encouraged as an integral part of governmental efforts to relieve the "farm problem."

The effectiveness of the new bargaining cooperative was limited because of the large amount of milk not used for fluid products. To overcome this obstacle the association rented several manufacturing plants and became an "operating" cooperative. Six such plants were in operation by the end of 1918. This has generally been considered to have been a wise plan for the cooperative to follow; since it has enabled the TCMPA to sell distributors only the milk needed for fluid purposes, and to withhold the remainder for manufacture into other dairy products. This has given the association a secure market position and a bargaining power on prices for fluid milk that would be impossible under other circumstances.

An integral part of the cooperative's previous operating plan had been a "full-supply" contract with Twin City distributors. This contract required that TCMPA furnish signatory distributors their entire requirements of fluid milk in the exact quantities needed. That meant that a distributor could simply call the association, place an order for certain amounts of milk and/or cream, and the association would deliver the order directly from plants in the city or cause it to be delivered by farmer-members adjacent to the city. The association continues to supply distributors with the same service today, even though the contracts were allowed to expire during the early years of the World War II period.

This arrangement is beneficial to distributors, for they are freed of the necessity of maintaining byproduct manufacturing facilities to utilize the inevitable surpluses that occur if they buy all the milk production of certain farms irrespective of season or changes in consumer demands. The dealer thus concentrates entirely upon processing and selling the bottled product, with the assurance that all other distributors who rely on the TCMPA (and since 1945 all distributors) are following the same milk procurement practices and paying the same prices for their raw milk supplies.

The association, of course, has encountered many problems in providing such a service to the dealers; the principal problem has been to balance the highly seasonal receipts from farmer-members with a different seasonal consumption pattern. During the spring "flush production" months the association is virtually flooded with surplus milk (the milk not used by distributors for fluid products). This surplus milk is manufactured into many different dairy products in eight different plants (in 1950) located in Minneapolis, Rockford, Watertown, Elk River, Anoka, Northfield, Farmington, and Lake Elmo. In 1935, the association had 13 such plants, but improved transportation facilities permitted concentration of manufacturing into fewer but larger and more modern plants. These plants are equipped to manufacture milk into such diverse dairy products as cream, plastic cream, butter, skim milk, buttermilk, powdered whole milk, nonfat dry milk solids, condensed whole and skim milk, evaporated milk, and ice cream. The importance of these various manufactured products to the association varies with changing economic conditions, because the association utilizes the flexibility of its plants by diverting milk into the most profitable byproduct uses.

The contract also imposed obligations upon the distributors. First and foremost, the dealer agreed to purchase from the association all the milk used or sold by him. The dealer also agreed not to sell any milk purchased from the TCMPA to any other distributor without first obtaining the written consent of the cooperative. Up until the time when the Federal Government, acting through various milk marketing programs, began to play the major role in determining and fixing milk prices to producers, the contract also provided for a method of price determination (sometimes by formula and at other times by direct negotiation). An important provision of the contract gave the association the privilege of entering the distributor's plant during working hours for the purpose of checking weights and taking samples of milk supplied by association members. This milk was later tested for butterfat content in the association's laboratory.

Any producer in the association's production area is eligible to join the cooperative. To qualify for membership, each prospective member must: (1) Equip his farm premises to meet the requirements established by the health department in either Minneapolis or St. Paul, and (2) purchase one share of stock for each four cows owned. Prior to November 1950 each prospective member also was required to sign a membership agreement which provided that the farmer-member consign to the association "all milk and cream produced by or from the cows owned or controlled by him, except such part thereof as may be required by said producer for his home or farm use or for retail by himself." The association agreed to receive all such milk produced and return a pro-rata share of the receipts from it to each producer after deducting expenses incurred in manufacturing and/or selling the milk or milk products. This agreement was effective for 1 year, but continued self-renewed unless either party gave written notice to the contrary at least 30 days prior to June 1 of any year. All contracts with individual members were canceled after November 1950, as most of the provisions of the contract were incorporated in a new set of bylaws which now bind members to the association.

It has been the association's policy not to accept as members farmers who live outside the "established milk territory" or who have prior contracts with cooperative creameries or cheese factories in the surrounding territory. Prior to July 1, 1948, the association also charged a membership fee of $10 to cover the cost of opening a new account and inspecting the prospective member's farm; no such charge is made at the present time.

Retail and Wholesale Distribution

Milk distribution in the Twin Cities area is a home-owned industry. In contrast to the situation prevailing in most of the other large cities, none of the large national dairy corporations has an affiliate in either Minneapolis or St. Paul. Most of the distributing companies are family-owned and -operated; a few firms in Minneapolis and in St. Paul are owned by the same interests and directed by interlocking boards of directors. Uniquely enough, the principal distributor in Minneapolis is a labor union-consumer cooperative which began operations on March 24, 1921. Since that time it has played an important role in determining the pricing and sales practices that have been adopted by Minneapolis distributors.

Milk stores as such are gaining in importance as outlets for fluid supplies, and milk distribution through such wholesale outlets as grocery stores, restaurants, hotels, schools, and milk stores accounts for slightly more than one-half of the fluid sales in the marketing area at the present time. Such wholesale outlets (and milk stores in particular) have been and are relatively more important in St. Paul than in Minneapolis. St. Paul traditionally had been a more important market for raw milk distributors and producer-distributors than Minneapolis, but raw milk outlets were prohibited by State law after July 1, 1950. More detailed data on the present and past status of milk supply and distribution aspects of the local fluid market are presented in a later section of this report.

The City Milk Ordinance

As pointed out earlier, fluid milk is highly perishable, easily contaminated and adulterated, and a favorable medium for bacterial growth. Under these circumstances, one of the most important foods in the human diet easily can become, and at times has been, a danger to the health of its users. The incidence of milk-borne diseases in the larger milk-consuming areas of the United States is rare today, principally because local and State governments have passed ordinances and promulgated sanitary requirements with respect to the production, processing, and distribution of fluid milk, for the specific purpose of protecting the health and welfare of consumers. The Federal Government, through the U. S. Public Health Service, has developed recommended sanitary regulations which form the basis of many local and State regulations.

The obligation of the municipal authority to protect consumers by milk ordinances was stated as follows in a 1914 decision of the Illinois supreme court:

> "There is no article of food in more general use than milk; none whose impurity or unwholesomeness may more quickly, more widely, and more seriously affect the health of those who use it. The regulation of its sale is an imperative duty that has been universally recognized." (5)

The courts have continued to uphold the legality of milk ordinances designed to protect the public health, particularly in those instances where the provisions were reasonable and not arbitrary or discriminatory.

In addition to their effect upon the quality of milk supplied consumers, municipal milk ordinances can exert economic effects upon a market. For example, such ordinances affect the production and marketing costs of milk. The cost of producing Grade A fluid milk is higher than the cost of producing an inferior grade. Also, before Grade A milk can be made available, it is necessary to overcome the inertia of producers in qualifying and complying with the inspection and sanitary requirements. For these reasons milk meeting the requirements of local ordinances ordinarily brings higher prices than "uninspected" milk. In addition, the Grade A requirements affect the ease or readiness with which additional supplies may be diverted to a given market, when increased supplies are needed. Hence dairymen who are already qualified for that market have an opportunity to negotiate higher prices than would otherwise prevail. However, since the added costs of meeting the Grade A requirements are capital investments, producers once qualified may continue producing even though the differential above prices of uninspected milk falls or even disappears for a time.

Theoretical as well as practical considerations cause distributors and milk producers, with health department permits, to want limitations placed on the number of shippers supplying a market, or to want provisions which at least will impede the movement of milk in and out of a marketing area. These demands often are met by sanitary regulations that not only protect health but also act as economic barriers.

The imposition of strict sanitary regulations, and the establishment of normal price premiums that result from the difference in the costs of transporting milk in different forms--fluid milk, cream, or butter--will also provide an important basis for a milk classification system. Such a classification system, in turn, will become an integral part of the milk-pricing system that can be applied to a particular market. It is necessary therefore to examine the milk ordinances of Minneapolis and St. Paul, to measure their influence as accurately as possible, and then to define their relationship to the various Federal milk regulatory programs.

Minneapolis Milk Ordinances

The Commissioner of Health in Minneapolis, operating under the jurisdiction of the Board of Public Welfare, is charged with the responsibility of enforcing the milk ordinance along with a number of other duties relating to public health and welfare. Although Minneapolis recently adopted a Grade A milk ordinance that meets the standards of the milk ordinance and code recommended by the U. S. Public Health Service for such milk, certain provisions of the city's preceding milk and delivery ordinances had been set aside by subsequent actions of the Minnesota State Legislature or by municipal, district, or State court decisions.

In 1917, Minneapolis adopted its first ordinance governing the quality of milk. A second milk quality ordinance was put into effect in May 1932, and this ordinance was replaced on December 1, 1949, by a "Grade A" ordinance modeled after the milk ordinance and code recommended by the U. S. Public Health Service. In addition, several other ordinances have been promulgated for the purpose of regulating, in one manner or another, the distribution of milk within the city.

The first milk quality ordinance, adopted in 1917, made the city a more or less "open" market for fluid milk and cream. Farms supplying the milk to pasteurizing distributors were not subject to inspection; there was only platform inspection of milk as it arrived at the pasteurizing plant. However, pasteurizing plants, bottled milk and cream, and dairy farms supplying milk for sale as raw or certified milk were subject to health department inspection. The lack of direct control over producers and the low standards for milk in the market were in contrast to the situation in St. Paul. The city of St. Paul would accept milk only from permit holders whose farms had passed inspection and who thereby were qualified to ship milk into the city. When the prices of manufactured dairy products, particularly butter, fell to unusually low levels in the early 1930's, creameries in the surrounding areas began diverting manufacturing milk into the fluid market. Because of the difference in health regulation, the major force of the shift was thrown on the Minneapolis market. The large amounts of milk precipitated market conflict, and drove the retail price of milk down to 5 cents a quart and distributors' prices to TCMPA producers to 50 cents a hundred pounds. This market conflict resulted in two actions:

(1) A renewed drive in 1931-32 for a more adequate milk ordinance in Minneapolis; and

(2) Urgent requests in 1933 for Federal intervention to maintain market stability.

Milk Ordinance of March 11, 1932. Accordingly, the second milk ordinance was passed on March 11, 1932, to become effective the first Monday in May 1932. In general, the new ordinance was similar to the previous code, but it provided that higher sanitary requirements would be applied to milk entering the Minneapolis market. Several new provisions were added, however, and two of these provisions later became subjects of court and legislative action.

Inspection was required for all farms producing fluid milk for the Minneapolis market; this inspection became mandatory 1 year from the effective date of the ordinance. The 1 year's grace was to permit farmers to equip their farms so that they might meet the new health requirements. The principal producers' cooperative supplying the market, the Twin City Milk Producers Association, backed the farm inspection proposal from the beginning, and the requirement was generally accepted as necessary and reasonable.

Section III of the ordinance required that the pasteurized milk sold in Minneapolis had to be pasteurized within the city limits. Pasteurizers outside the city limits (some only a few hundred feet outside) fought this section of the ordinance vigorously, but were unsuccessful in their efforts to defeat it by action in the municipal court. Shortly after January 1, 1933, an outlying pasteurizer was denied a license by the city. He appealed to the district court to declare this section of the Minneapolis milk ordinance void and compel the city to grant his license. The district court dismissed his petition, and a short time later denied his motion for a new trial. This section of the ordinance undoubtedly would have affected the competitive aspects of the local fluid milk market had not the Supreme Court of the State of Minnesota, on November 17, 1933 (State ex. rel. Larson v. City of Minneapolis et al., 251 NW 121), reversed the decision of the district court and declared that section of the ordinance unconstitutional.

Licenses for milk pasteurizing plants and for all milk delivery vehicles were required by another section of the ordinance. Although licensing fees were imposed on pasteurizing plants and delivery vehicles of operators of such plants, no provision was made for the licensing of other distributors, such as "peddlers." In the first court test of this section, a peddler who had continued to distribute milk after being unable to obtain a license was acquitted and the pertinent section of the ordinance was declared defective (State v. Olaf Thompson, case no. 67308 of March 5, 1935). Thereafter, the distributors in the eliminated classifications were allowed to continue deliveries.

The ordinance also shifted farm inspection costs to each farmer by assessing a $4 fee for the first year's inspection and a $3 yearly fee for renewal. This stipulation was removed from the ordinance after the Minnesota State Legislature passed a law in 1935 which read, in part:

> "That no permit, inspection, test, bond, or other authorization shall be required of such person /those selling products of their farm or garden/ unless the cost thereof is paid by the municipality, agency or board requiring the same."

The inspection is now provided free of charge to the producer.

The 1932 ordinance was amended 13 times between early 1933 and the promulgation of the 1949 Grade A milk ordinance, but none of the changes had any major economic or competitive effects upon the various market interests. Most of them were designed to alter definitions or to clarify certain specifications, to add new products to the approved list, or to increase license fees.

Milk Ordinance of July 6, 1949. The Minneapolis city council approved a revised milk ordinance, patterned after the milk ordinance and code recommended by the U. S. Public Health Service for Grade A milk, on July 6, 1949, and made it effective on December 1, 1949. Its principal effect was to require that after December 1, 1950, only Grade A pasteurized milk, cream, or milk products be sold in the city of Minneapolis, and that these items be made from raw milk produced only on inspected and approved farms. Until January 1, 1952, however, cream for pasteurization and sale could be obtained from noninspected sources.

During periods of acute milk shortages, the Commissioner of Health is authorized to permit the importation of Grade A raw milk from producers who do not possess a Grade A permit from the city to supply the local market. Another section of the new ordinance permits the sale of milk produced "beyond the limits of routine inspection" of the City of Minneapolis if the supplier is properly licensed by the city and the milk is produced and pasteurized under comparable statutes enforced with equal effectiveness.

The ordinance also requires milk pasteurizers and distributors to obtain licenses for the operation of an approved plant and any delivery vehicles; these licenses must be purchased by the plant operator or milk distributor at rates established by the City Council.

This Grade A milk ordinance was drafted after consultation with representatives of the St. Paul Bureau of Health, Minneapolis milk distributors, and the TCMPA. It received unanimous support of the City Council, has the general backing of the local fluid milk industry, and has not been subjected to any court actions since it became effective.

Related Ordinances

Ordinance of December 9, 1932. Another ordinance that had definite effects upon the local milk industry was passed by the Minneapolis City Council on December 9, 1932; it restricted the delivery, to consumers, of milk, cream, other dairy products, bread, and food for human consumption to certain specified hours at certain times of the year. No such restrictions were placed upon deliveries to the wholesale trade.

The small independent handlers strongly protested this ordinance, contending that the time limits specified in the ordinance would not allow them to cover their routes adequately, whereas large distributors, on the other hand, could consolidate their numerous trucks and routes to provide adequate retail service during those hours. This difference in service, in turn, would tend to encourage retail customers to switch their trade to the large handlers. Small handlers also opposed as discriminatory the exemption of wholesale business from the ordinance, because practically all of the wholesale business was concentrated among the larger distributors. The ordinance remained in effect, however, and no retail deliveries could be made between midnight and 6 o'clock, a.m., from November 1 to March 15 and between midnight and 5 o'clock, a.m., the remainder of any year. The ordinance has been amended twice to institute changes in the restricted hours; the last amendment (January 23, 1942) changed the hours to read from midnight to 7:30 a.m. on any day of any year.

Ordinance of January 27, 1933. An ordinance passed by the Minneapolis City Council January 27, 1933, prohibited the licensing of peddlers for the purpose of distributing milk, cream, and other milk products. St. Paul already had eliminated this type of distribution by an amendment to its milk ordinance on June 7, 1928.

Opponents of the Minneapolis ordinance claimed that its purpose was to force raw milk producers and distributors out of the local market. The peddlers were not actually forced out of the market, however, but in order to stay in business they had to operate on licenses obtained in the name of the distributor from whom they obtained their milk supplies. This procedure had the effect of stabilizing the fluid milk market, since the peddlers became subject to greater controls from pasteurizing distributors instead of being free to follow independent pricing and competitive practices.

The ordinance caused great disfavor among many producers, however, even though the Twin City Milk Producers Association favored it. The ill-feeling, engendered in part by this ordinance, culminated in the passage of a law by the Minnesota State Legislature (1935) which provided that ". . . Any person may sell or peddle the products of the farm or garden occupied and cultivated by him without obtaining a license therefor." (2) This law largely offset the effectiveness of the city ordinance, although nonfarming peddlers still had to obtain their licenses from their distributor-suppliers.

Ordinance of May 26, 1933. On May 26, 1933, the City Council of Minneapolis made an additional attempt to regulate the local fluid market by approving an ordinance to license, regulate, and limit the number of milk delivery vehicles. It limited the number of licenses issuable to one for each 700 residents of the city, it prohibited their transfer between holders, and it substantially limited milk deliveries to the pasteurizing plants then in business.

The same group of small dealers again vigorously protested that this ordinance discriminated against them in favor of the large handlers. They argued that because the larger handlers possessed more trucks and operated more routes, they would be able to effect consolidation more easily. This, in turn, would free many of their vehicles for expansion and growth at the expense of the smaller dealers. The ordinance, subsequently, was amended on June 30, 1933, to provide relief for distributors outside the city who might later consolidate with distributors inside the city. The amendment allowed such a new company to keep the same number of vehicle licenses as the individual distributors comprising it possessed jointly during 1932 and until July 1, 1933.

On December 28, 1934, however, Judge Carroll of the Minneapolis municipal court ruled in favor of a distributor 2/, formed by consolidation of two peddlers, who was charged with violating the ordinance with respect to delivery vehicle licenses. As a part of the decision acquitting the new distributor and allowing him to retail milk in Minneapolis, the court held that the ordinance was arbitrary and discriminatory against certain distributors, and that it did not "bear a reasonable relation to a proper legislative purpose."

On January 26, 1939, in the municipal court of Minneapolis (case No. 74623) a decision was rendered against the delivery ordinance of May 26, 1933, but the decision contained an unintentional statement that the defendant was charged with violation of a milk ordinance. The decision declared the ordinance null and void. This ruling was never challenged directly or altered in the succeeding years, and an era of legal uncertainty, at least technically, surrounded the Minneapolis milk ordinance and related statutes. Although the health department was confronted with this uncertainty as to its legal position, it continued to apply a comprehensive inspection code and to enforce its provisions with the full approval of the Twin City Milk Producers Association and the various Twin City distributors until the new Grade A milk ordinance became effective on December 1, 1949.

St. Paul Milk Ordinance

The St. Paul Bureau of Health of the Department of Public Safety is charged with the enforcement of the city's present milk ordinance, which was approved and adopted August 22, 1919. Since that time, only three amendments have been proposed and passed, one in 1925 and two in 1928. The ordinance provides that all persons selling milk to consumers and dealers, or for manufacturing purposes within the city limits (excepting for butter, cheese, condensed milk, and ice cream), must obtain a permit to do so. These production and distribution permits are issued by the health officer after a proper inspection has convinced the authorities that the ordinance requirements have been met; the city levies no charge for the permits or the inspection service. As early as 1913, St. Paul required by ordinance that

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2/ State of Minnesota vs. Christ J. Collis, No. 65592.

all milk sold in the city be bottled either at the farm or in a distributor's plant before being offered to the public.

The milk ordinance, as amended, provides for: (1) A detailed definition of terms, including a strict definition of milk; (2) three classes of eligible milk--certified, raw, and pasteurized; (3) certain standards of sanitation in the production and distribution of both milk and cream; and (4) a classification of eligible dairies and dealers according to the type of distribution service rendered. The original dealer classification included milk depots and vendors; their legal status subsequently was abolished by the amendment of June 7, 1928.

St. Paul has long maintained a close supervision over the farms supplying its fluid milk requirements, and its milk supply during the earlier years was maintained at a consistently higher level of quality than that of Minneapolis. At the same time the inspection and permit plan operated in a passive way to limit the ease with which uninspected milk could be diverted into the market in distress periods, such as the early 1930's when sales in the fluid milk market were highly profitable as compared to the returns derived from manufactured dairy products. The ordinance has not been set aside by any court action, and the market has enjoyed a certain degree of stability through depressions as well as in more prosperous times. This has been accomplished without the necessity of altering the basic milk ordinance that was passed in 1919; and distributors and producer groups have recognized that their best interests are served by maintaining a level of milk sanitation consistent with that required by municipalities that maintain standards by legal force. Present standards enforced by the St. Paul Bureau of Health closely approximate those set forth by the U. S. Public Health Service and the new Minneapolis Grade A milk ordinance, and indications are that the city will soon undertake to adopt a similar ordinance to give greater legal sanction to its present procedures.

Quality Control Committee of the Twin Cities

The milk supplies for both Minneapolis and St. Paul come from producers who are in the same general farming areas, nearly all of whom are members of the same producers' cooperative. It would be desirable, under these conditions, to have the producers subject to the same set of sanitary regulations enforced with equal effectiveness. A study of the development of sanitary regulations of the Twin City area indicates that the local health authorities in both cities, along with the distributors and the dominant producers' cooperative, wanted milk of a higher quality than that supplied the market and required under the city ordinances effective during the late 1930's. The Minneapolis ordinance had been altered in several respects by subsequent court decisions and legislative actions, and the problem was one of promulgating and enforcing a comprehensive milk inspection code for pasteurizing plants and producers that would have public and producer acceptance. The intent was to give greater legal sanction to the higher quality requirements once the milk produced on supplying farms reached those standards.

The sanitary problems arising from the questionable legality of the Minneapolis milk ordinance, and from the political separation of one milk market in the economic sense, were met by the establishment in April 1948 of a (Milk) Quality Control Committee of the Twin Cities. Minneapolis and St. Paul distributors, the health departments of the two cities, the Twin City Milk Producers Association, and the Division of Dairy Husbandry of the University of Minnesota have cooperated in this plan. A small staff of persons operate a quality control laboratory, in which they examine, for bacterial count and sediment, two samples of milk a month from each producer delivering milk to pasteurizing plants in Minneapolis and St. Paul.

During 1949 a total of 56,100 samples were tested for bacteria count and 28,117 samples were tested for sediment content. The results of these tests indicate that 4.2 percent of the samples tested graded unsatisfactory for bacteria and 3.8 percent graded unsatisfactory for sediment content. During 1949 laboratory pasteurization tests were also made on 10,793 samples for the purpose of determining whether the milk contained bacteria that were not killed by pasteurization. Eleven and one-half percent of these samples contained excessive numbers of bacteria. (8) The laboratory also makes bacterial counts on bottled milk twice each month for the benefit of the local health departments. Furthermore, it makes tests of the butterfat content of the milk shipped into the marketing area by unorganized producers and of the bottled milk sold by Twin City distributors. This work is done on a contract basis for the Market Administrator of Federal Milk Order No. 73.

This joint effort at milk quality control is financed by contributions of money from the participating producer and distributor groups and by contributions of personnel, materials, and supervision from the other groups. It is controlled by a board of 15 members made up of representatives of each of the founding groups, and it summarizes its annual accomplishments in an annual report made available only to the members of the committee.

Quality Programs of the Twin City Milk Producers Association

The Twin City Milk Producers Association long has recognized that, in order to maintain its position as the dominant supplies of milk for the Twin Cities, it must supply milk of equal or higher quality than that obtainable elsewhere in the procurement limits of the local market. In line with this objective, the TCMPA began making acidity, sediment, and bacteria tests of producer-member shipments shortly after its organization. No price differentials between the various grades of milk were established, however, and the program failed to improve the quality of the milk supply.

In January 1929, the association met the problem by promulgating a quality program which required a bacterial, acidity, and sediment test of each producer's milk shipments each month. The milk was classified as falling within one of four groups, and if it graded "Very Dirty" or over two million bacteria per cubic centimeter, the producer was warned by mail. If the conditions were not corrected during a prescribed period, the producer suffered a deduction of 25 cents for each hundred pounds of milk shipped during that month. In later years the producer of low-quality milk suffered a deduction, set at a certain percentage of the price of milk (2 1/2, 5, and 10 percent), and persistent violators were shut out of the fluid milk market completely. The TCMPA also employed field men to make farm visits and help producers discover and correct the conditions responsible for low-quality milk.

The association still supplements the work of the Quality Control Committee by maintaining a staff of field men who work directly with the members in implementing quality programs. In 1950 milk receipts were paid for on the basis of three grades: Grade A, Manufacturing 1, and Manufacturing 2. The two manufacturing classes are established in accordance with a State law enacted in 1947. Milk that grades Manufacturing 2 is priced at 3 percent less than milk that grades Manufacturing 1, but both prices are determined by pooling the returns from the sale of such manufactured dairy products as butter, cheese, and nonfat dry milk solids. Grade A receipts are paid for at a price calculated by pooling the returns from milk sold for fluid uses with the returns from the surplus milk used in manufactured dairy products. During 1950, the price differential paid producers for Grade A milk averaged 58 cents a hundredweight above the returns received by producers of milk of Manufacturing 2 quality.

Present indications are that the Grade A Milk Ordinance and the work of the Quality Control Committee, combined with the price differentials and price stability established by the Federal milk order and reflected by the TCMPA, have raised the quality of milk available to the Twin City market.

State Regulation of the Twin City Fluid Milk Industry

Legislation of the State of Minnesota affecting milk is directed toward sanitation and quality. Although such economic measures as quality price differentials are provided, the State has never enacted any economic control or price-fixing measure analogous to the Agricultural Marketing Agreement Act or to the control programs now in existence in 15 other States.

A comprehensive dairy inspection law was passed as early as 1895, and since that time broad regulations have been promulgated concerning nearly all aspects of the milk industry except price fixing. Most of the Minnesota State laws are concerned with the manufacture and sale of such dairy products as butter and cheese--products for which the State is a major exporter. Since the Minneapolis and St. Paul fluid milk standards always have been higher than those applicable to dairy manufacturing plants and products under State laws, the State laws and regulations affect local markets in only a few respects.

All cream sold in the State must be purchased on the basis of grading standards promulgated by the State in 1935. These standards make provision for three grades of cream--Sweet, Grade 1, and Grade 2--and the law prohibits the sale or use for human consumption of any cream not meeting the specified standards of quality and cleanliness. The law further requires that all purchasers of cream must maintain a price differential of at least 1 cent per pound of butterfat between each grade as an incentive to producers to raise the quality of the product.

The same approach was applied in 1947 to milk used in manufactured dairy products. The applicable State law provided for two grades of manufacturing milk--Grade 1 and Grade 2--and required that all milk purchased for manufacturing purposes had to be purchased on the basis of the standards and grades promulgated. Purchasers are required to maintain a price differential between the two grades of manufacturing milk of not less than 3 percent of the purchase price for Grade 1 milk. The law also provides that manufacturing milk that contains excessive amounts of sediment must be rejected by the purchasers.

A 1921 law makes illegal any discriminatory buying and pricing practices of purchasers between different areas of the State, and specifies that

> "Proof that any person, firm, copartnership, or corporation has paid a higher price for milk or cream in one locality than in another, after due allowance for the cost of transportation has been made, shall be prima facie evidence of the violation. . . ." (3)

Another State law of importance to the pasteurized milk industry was approved in 1945. This statute defines "milk" and "pasteurization," sets minimum standards for Grade A raw and Grade A pasteurized milk, and prescribes the conditions under which milk must be produced and processed in order to be labeled and sold as a pasteurized product. A 1947 statute forbids the manufacturing, transportation, or sale of any cheese made from milk or milk products that was not pasteurized according to the specifications for the 1945 State pasteurization law, minor exceptions being made for aged cheeses and cheeses subjected to certain manufacturing processes.

The one State law that affected the Twin City fluid milk market was passed in 1949 and became effective July 1, 1950. It prohibits the sale or advertising for sale for human consumption in the State of Minnesota of any unpasteurized milk, cream, or any other fluid milk product. It further requires that Grade A pasteurized milk be milk that contains not more than 200,000 bacteria per milliliter before pasteurization nor more than 30,000 per milliliter after pasteurization. Regular pasteurized milk, cream, or fluid milk products can be processed from milk which does not exceed a bacterial count of 500,000 per milliliter when raw, but such milk must be designated as merely "pasteurized." The law excepts purchases of milk for the personal use of any consumer provided that the purchase took place at the farm where the milk was produced. The net effect of this statute has been to force the producer-distributors of raw milk to convert their operations to a pasteurized basis or to withdraw from distributing fluid milk and cream. Seventeen such farmer-distributors were licensed to serve the Twin City fluid market during 1948.

Price Determination Prior to Federal Regulation

The methods used in determining producer prices for fluid milk sold in the Twin Cities during the years prior to Federal regulation may be grouped into three periods:

(1) Competition among buyers--prior to 1910.

During this period milk was largely distributed by farmers themselves, although operators who were exclusively distributors were beginning to appear. These distributors paid as much as was necessary to obtain the milk they needed from farmers who did not wish to distribute their own production. Competition was keen between farmer-distributors and the new specialized dealers, and this competition helped set the price level.

(2) Price determination by dealers--1910-1916.

As the population grew, demand for milk increased. Higher health standards and increased specialization made milk distribution on a large-volume basis a profitable business. Dealers expanded their sales and farmers shifted to producing milk for specialized distributors instead of distributing it themselves. Distributors then dominated the market price determination for raw fluid supplies by pitting the small producers and producer groups against one another on a "take-our-price-or-leave-it" basis.

(3) Price determination by negotiation--1917-1933.

Distributors so wielded their superior bargaining power that farmers and small producer cooperatives throughout the milkshed became aroused over their treatment. This producer unrest culminated in the formation of the Twin City Milk Producers Association by consolidation of smaller producer groups. This cooperative has represented nearly all producers in the market in subsequent price negotiations with the distributors. Since 1933 the producers' association has from time to time had the active assistance of various Federal milk-pricing programs in setting the level of producer prices for fluid milk in the Twin Cities.

IV. CONDITIONS IN THE MARKET IMMEDIATELY PRIOR TO FEDERAL REGULATION

Because of the reliance of this area upon dairying as a source of income, it was inevitable that the sharp decline in butter and cheese prices in the early 1930's would have immediate repercussions upon the 156 creameries and cheese factories located within 50 miles of the Twin Cities. The decline not only drastically reduced farmer incomes and fostered dissatisfaction among the milk producers throughout the area but it also magnified the importance of the price differential that existed between the returns derived from the sale of butterfat used in locally manufactured dairy products and the prices that the Twin City milk distributors were paying to the Twin City Milk Producers Association for fluid milk. Most of the outlying creameries were producer cooperatives that competed actively with one another for patronage; in fact, even the amount of patronage refunds that these cooperative creameries paid out influenced their competitive status.

As a result of this situation, the relatively attractive prices for milk and cream in the Twin City fluid market had often induced nearby associations to try to enter it as suppliers. The fall in prices of butterfat used in manufactured dairy products during that period, coupled with the negligible value of skim milk at either the farm or plant, emphasized the additional profit possible in selling milk to the higher-priced fluid milk market and led to increased efforts on the part of the outlying creameries to obtain similar outlets.

Several conditions combined to make entry into the fluid milk markets easy at that time, particularly in Minneapolis. The TCMPA had long recognized the necessity for keeping their selling price to distributors closely adjusted to the returns obtainable from manufactured dairy products. In an effort to bolster and maintain prices to their own members during this period, however, the association did not reduce fluid milk prices to distributors in proportions comparable to the price declines that had occurred in butter and cheese. Table 2 indicates that from 1925 through 1929, the ratio between the price of 100 pounds of 3.5 percent milk to the fluid milk distributors and the TCMPA's buying price of a pound of butterfat used in manufactured dairy products was 5.1 to 1. In 1930 this ratio, because of decreases in the value of butterfat for manufacturing purposes, was 5.8 to 1. By 1931 the ratio was 6.1 to 1. That was the beginning of the period in which the association had to meet the most serious threat that had yet challenged its dominant market position, for the outlying creameries began to offer price concessions to gain a share of the relatively profitable fluid milk market.

The lag in the fall of fluid milk prices to distributors can be noted by the percentages that fluid prices were of the value of 3.5 pounds of butterfat sold for manufacturing purposes. During the 5 years from 1925 through 1929 the price of fluid milk sold to Twin City distributors had averaged about 147 percent of the value which the fluid milk would have had if it had been used for manufactured products; yet in 1930 (because of the decreases which had occurred in the prices of manufactured dairy products) fluid milk prices were 167 percent, and by 1931 they were 176 percent, of the value of butterfat used in manufactured dairy products. In 1932, because fluid milk prices had been maintained while those for manufactured products had fallen, fluid milk prices were 176 percent of manufacturing values in Minneapolis and 192 percent in St. Paul. These data indicate that there was, at that time, an economic incentive for the outlying creameries to attempt to obtain a permanent share of this fluid milk volume. After the Twin City Milk Producers Association emerged from the milk "price war" of 1932-33, fluid prices to distributors returned to the more nearly normal level, in relation to manufacturing values, of 139 percent in Minneapolis and 156 percent in St. Paul (1933).

The nature of the Minneapolis milk ordinance was another factor which made entry into the fluid milk market relatively easy for the outlying creameries. The ordinance then in effect had been adopted in 1917, and it contained no provisions for farm inspection. Any milk was eligible for sale within the city if it met certain minimum requirements after pasteurization at the distributor's plant. This made Minneapolis an "open city" for any of the 156 outlying creameries that might wish to enter the

Table 2.--Comparative values of 3.5 pounds of butterfat when sold for use in manufactured dairy products and when sold as fluid milk to Twin City distributors based on TCMPA's actual prices, 1921-33

Year	Average paying price per pound of butterfat	Distributors' paying price per hundredweight of 3.5 fluid milk	Value of 3.5 pounds butterfat if sold as fluid milk	Ratio of fluid milk price to price per pound of butterfat	Ratio of fluid milk price to value of 3.5 pounds of butterfat
	Cents	Dollars	Dollars		
1921	44.2	2.45	1.55	5.5	158
1922	43.8	2.51	1.53	5.7	164
1923	51.8	2.82	1.81	5.4	156
1924	46.2	2.51	1.62	5.4	155
1925	51.4	2.64	1.80	5.1	147
1926	49.7	2.55	1.74	5.1	147
1927	54.1	2.69	1.89	5.0	142
1928	54.3	2.80	1.90	5.2	147
1929	51.9	2.76	1.82	5.3	152
1930	40.4	2.35	1.41	5.8	167
1931	30.6	1.88	1.07	6.1	176
1932	21.8	1.34-1/1.46	.76	6.1-1/6.7	176-1/192
1933	22.8	1.11-1/1.25	.80	4.9-1/5.5	139-1/156

1/ St. Paul prices and values based on St. Paul prices.

Compiled from data obtained from the Twin City Milk Producers Association.

fluid market, and they could have literally flooded the market with milk whenever the opportunity arose--that is, whenever the price relationships were favorable and dealers could be found who would distribute the milk. St. Paul, on the other hand, required farm inspection and the holding of an official city permit to ship milk before such milk could be eligible for pasteurization and distribution by dealers. The farm inspection was onerous, and producers preferred to sell to Minneapolis dealers when they could, rather than to seek a permit to sell in St. Paul.

The first serious attempt of the outlying creameries to obtain a share of the fluid market came in the latter part of 1931. The monthly bulletin of the TCMPA for December 1931 carried the following lead information under "Milk Price for November":

> The milk situation in the Twin Cities, especially Minneapolis, is the worst that it has been for many years from the standpoint of the Association. Country creameries have started to bottle 4% milk and have offered it to chain stores at six cents per quart. The amount of nonmember milk coming into Minneapolis is constantly growing and there are now over seventy wagons distributing this nonmember milk bought at prices less than the Association price.
>
> The distributors of milk felt that the condition had reached a point where something had to be done and we agreed that if they went down one cent per quart, or 47 cents per hundred, we would make a drop of twenty cents, the distributor to stand 27 cents of the drop. Minneapolis distributors accepted this proposition and dropped their price on December 4th, at which time our price to them dropped from $1.90 to $1.70. St. Paul distributors have not had as large an amount of this outside milk to contend with and decided to hold their price, therefore our price in St. Paul is $1.90 per hundred.
>
> With the large increase in production over last year and a falling butter market all of the creameries and cheese factories in the vicinity of the cities are working hard to get a part of our market. Over 30 creameries around the Twin Cities are now selling either milk or cream here and our Directors therefore instructed the officers to meet this competition and keep the market.

The premium for fluid milk encouraged outlying creameries to seek pasteurization permits or to contract to sell their milk to new dealers within the city. After receiving pasteurization permits the plants bottled the milk and hauled it to the Twin Cities, where final distribution to consumers was effected through newly established distributors or peddlers, or both. These peddlers were prohibited by ordinance from operating in St. Paul, so Minneapolis distributors received the full brunt of their competition. These men, who owned their own equipment and had developed established routes, purchased pasteurized milk at special prices substantially lower than those at the wholesale level. The final resale price was left to their own discretion. Several of the large distributors who relied upon TCMPA for milk supplies also made extensive use of peddlers to supplement their own retail routes. Thus three general types of distributors with different sources of supply were active at both wholesale and retail levels: (1) The regularly established pasteurizers who purchased their milk supplies from TCMPA; (2) the above-described peddlers; and (3) smaller or new distributors who relied on outlying creameries for their milk supplies (at near butterfat price levels). In this environment, considerable price competition developed, particularly between the peddlers and the outlying creameries, on sales of wholesale and store milk.

TCMPA had continuously worked with its membership to improve the quality of fluid milk sold in the city, and sought to justify its fluid price premium on the basis that this was necessary to cover the extra production costs involved. But the price premiums attracted outside milk supplies from noninspected sources, which were acceptable under the Minneapolis milk ordinance. Most of the smaller handlers as well as the peddlers were eager to distribute such milk from outlying sources because of the price advantage. The association decided to meet the competition of this "outside" milk by selling fluid supplies "on the basis of the manufacturing value of the milk based on quoted daily market plus a charge for hauling and skim milk." (9) At the same time they renewed their earlier efforts to obtain adoption of a new milk ordinance for Minneapolis that would require farm inspection and licensing before milk would be eligible for fluid uses. The cooperative stated that "we even offered to pay the cost of such inspection believing it would stabilize conditions and protect our producers and the consumers of milk." (10)

Although the TCMPA price to dealers was substantially lowered in January 1932, the association continued to lose an increasing proportion of the fluid milk market. Demands of members and distributors that the situation be corrected resulted in a series of investigations by the association on the advisability of purchasing certain distributors' facilities and assuming the task of distributing its own milk directly to the consumers' doorstep. After making many surveys of similar operations in major cities throughout the United States and weighing the advice of local and national milk marketing experts, the cooperative's directors decided against the policy of entering the retailing field. (11)

The decision not to undertake the retailing of milk was based on the following considerations:

(1) The cost involved in purchasing existing distributing plants was estimated to exceed $8,000,000 (in 1932).

(2) The association probably would lose the patronage of distributors who continued to retail milk in competition with it, partly because of a natural reluctance on the part of these distributors to patronize a competitor and partly because a large number of creameries within its territory could easily supply the milk needed by the association's competitors.

(3) Considerably less milk could be sold for fluid uses directly than the association was already selling through existing distributors. A change in policy would force the association to build and maintain additional manufacturing plants to process the increased quantities of surplus milk.

(4) Whatever profits the association might realize from the retailing of its own milk could easily be overbalanced by the reduced income from the increased amounts of milk that would have to be manufactured into dairy products instead of being sold for fluid uses.

(5) Retailing its own milk would do little to solve a basic difficulty facing the TCMPA--the competition offered by the large number of creameries and cheese factories operating in the vicinity of the Twin Cities.

They elected instead to cooperate with their existing city distributors in the formulation of a unified program that would better the marketing conditions and restore market stability.

During this period, 1931-32, the companies that did not purchase milk from the association experienced a 15- to 20-cent a hundredweight price advantage over the TCMPA-contracting distributors, yet the cooperative continued to hold these regular outlets. By middle 1932, however, the price competition began to affect the larger distributors seriously. Northland Milk Company, one of the two largest distributors in Minneapolis, gave notice to the cooperative that it intended to cancel its contract with the association unless means were found to bring the fluid prices in line with those of outlying suppliers. After a hurried series of meetings among themselves and with their contracting distributors, the association's directors kept the contracts in force by devising a new price plan satisfactory to their distributors. The new plan left the actual dealers' buying price undetermined until the end of the month. The price was at that time announced after the amount had been settled on the basis of the month's returns from manufactured products plus a "reasonable" extra payment for servicing the accounts and balancing the distributor's supply with his actual needs.

Competition for volume also took other forms. City distributors began to lose substantial amounts of cream sales during the early 1930's to peddlers who established cream routes throughout Minneapolis. Many dealers had relied on these sales for a substantial part of their profits, and drastic cuts in the retail prices of cream were necessary to keep such sales from going to peddlers. These price cuts resulted in increased cream sales for the city generally, but the narrowed margins were not sufficiently offset by the increased sales and, as a result, yielded smaller total profits for the distributors. At the same time, the intense competition among dealers for wholesale and store business resulted in such low prices in stores that many consumers shifted from home-delivered to store-purchased milk. Evaporated milk also cut into market milk sales, particularly among the lower-income and unemployed groups.

By January 1933 the outlying creameries had begun to make sizable inroads into TCMPA fluid milk sales in two ways: (1) The association's regular contracting distributors were losing a share of the market to other distributors, thus lowering their milk needs from TCMPA; and (2) three distributors canceled their full-supply contracts with the cooperative. One of these dealers, the Lincoln Milk Company, had long relied on the association for fluid milk supplies. Three other distributors who then had contracts threatened to do the same. The flow of this lower priced milk into the fluid milk market was also being promoted by unemployed truck owners who began to contact surrounding creameries for milk supplies that could then be hauled into the Twin Cities and sold to distributors who did not have TCMPA contracts.

The major effect of the large and increasing supplies of outlying milk was borne by Minneapolis because of the difference between the Minneapolis and St. Paul health ordinances. A comparison of dealers' buying prices in the two cities during the first 5 months of 1933 shows the effect of this increased milk supply. St. Paul distributors paid TCMPA $1.10 a hundred pounds in January, $1.09 in February, $0.91 in March, and $0.95 in April and May; Minneapolis dealers paid only $0.95 in January, $0.84 in February, $0.60 in March, and $0.50 a hundred pounds in April and May. (When the price war was ended on June 2, 1933, the negotiated price between TCMPA and the distributors of both cities returned to $1.15 a hundredweight.)

During 1932 the cooperative's "milk war policy" of pricing fluid milk closer to manufacturing returns failed to lessen the intense competition among suppliers for distributors' business. By early 1933, 11 Minneapolis dealers were purchasing milk supplies from outlying creameries. The principal dealer in the latter group was the Lincoln Milk Company. This company canceled its contract with the cooperative when an outlying creamery offered to fill its supply requirements at a price which would be 20 cents a hundred pounds less than the standard price to city distributors, regardless of the latter's level. This move precipitated the cumulative developments of the preceding year into a general milk price war in which TCMPA eventually sold fluid milk to contracting Minneapolis distributors for 50 cents a hundred pounds f.o.b. distributors' plants. This 50-cent price prevailed in Minneapolis from March 13 through May 31, 1933. During that period the retail wagon price for milk was 5 cents a quart, store prices were as low as 7 cents for two quarts, and the price to peddlers was 2 3/4 cents a quart.

The distributors who purchased association milk were being squeezed financially by plant and labor costs which were higher than those incurred by the outlying plants distributing through peddlers. Some large city distributors claimed they lost $1,000 a day. The loss in volume of sales by these larger distributors, to peddlers and others, forced them to cut costs by dismissing employees. Union leaders soon recognized the threats to the future well-being of their organization if the peddler system of distribution should grow, and joined the price war by voluntarily reducing the wages of both inside and outside employees by $22 a month. This proved a timely aid to the large distributors in their efforts to obtain and hold customers at the low milk prices then prevailing.

The market conflict, with its 50 cents a hundredweight milk, had been in progress little more than a month when 5 of the 11 distributors, who previously had relied on "outside" milk, signed long-term full-supply contracts with the association. These 5 distributors had never previously relied on the cooperative for supplies. Two more companies signed similar contracts in April; one other distributor who had bought "outside" milk was forced into bankruptcy. The producers' association helped two of the above-named signatories effect a consolidation of resources by agreeing to purchase the plant and facilities of one of the distributors and rent it back to the new concern. This was done on the condition that the new company would purchase milk from the association. The TCMPA also took a second mortgage on the facilities of a regular distributor under contract to them to permit his purchase of the assets of a newly signed dealer. (1) The two companies formed by these consolidations signed full-supply contracts with the association. In addition, at least two contracting distributors discontinued the policy they previously had followed, of buying some of their milk directly from farmers who were not members of the Twin City Milk Producers Association. One of the principal distributors in Minneapolis also cut off 108 nonmember producers (about one-half of whom later joined the TCMPA) and replaced their supplies with receipts from TCMPA member-producers. (12)

At the end of the market conflict, the distributors in both Minneapolis and St. Paul were paying TCMPA $1.15 a hundred pounds for their fluid milk requirements. Beginning on June 2, 1933, retail prices in Minneapolis uniformly increased to 7 cents a quart and the price to stores ranged between 5 and 5½ cents a quart.

The ordinances passed by the Minneapolis City Council undoubtedly played an important role in resolving the intermittent market conflicts and the severe milk price war of early 1933. The new ordinance which went into effect on May 1, 1932 required farm inspection, permits to sell milk in Minneapolis, and the pasteurization of milk within the city limits, but the inspection of farms and licensing of producers actually began 1 year later--April 1, 1933. In accordance with the provisions of the new milk ordinance, one of the pasteurizers located outside the city limits was denied a license to pasteurize milk for sale in Minneapolis in January 1933. This action by the city was upheld by the District Court in February

1933. During this same period, the City Council also passed the ordinances (discussed in chapter III) that barred milk peddlers from operating in the city, limited the number of delivery vehicles, and restricted the hours of delivery in a manner that presumably aided the established Minneapolis distributors.

The effect of these ordinances was to limit the methods by which outlying producers and pasteurizers were able to enter the fluid milk market and to precipitate unrest and unstable marketing conditions. Although the State Supreme Court later (November 1933) voided the restrictive pasteurization requirements imposed by the Minneapolis milk ordinance, the District Court decision in February 1933 indicated to the fluid milk interests that there was little alternative but to abide by the new regulations.

The effect of the efforts of outlying creameries to enter the fluid milk market and of the resultant price war was to establish more firmly the dominant position of the TCMPA. An examination of the market situation after the end of the conflict revealed that the association:

(1) Signed five new distributors to long-time supply contracts, thereby increasing the proportion of fluid sales supplied by association members.

(2) Reduced the number and importance of nonmember producers in the Twin City market.

(3) Established permanently a quality and location differential.

(4) Benefited from the new Minneapolis milk ordinance which, indirectly at least, had been adopted to mitigate the severity of such market conflicts.

(5) Restored the dealer buying price to a "reasonable" level of $1.40 a hundred on July 1.

The market unrest and dissatisfaction with the pricing situation herein described was by no means limited to the local market. During 1932 and 1933 the agricultural problem throughout the United States was one of depressed prices and markets, and demands arose from many segments of the economy for the Federal Government to take some appropriate remedial action. A first step in this direction was the enactment of the Agricultural Adjustment Act of 1933 and the provisions it contained for a number of programs designed to relieve the situation.

V. FEDERAL REGULATION BY MILK LICENSES AND AGREEMENTS, 1933-44

The Twin City market became the fourth major fluid milk market to be regulated by the Federal marketing agreements and licensing program. The initial regulation consisted of: (1) A marketing agreement between the Secretary of Agriculture, the TCMPA, and 25 fluid milk distributors from Minneapolis and St. Paul; and (2) a Federal milk license (No. 5) issued by the Secretary of Agriculture, which imposed the terms of the marketing agreement upon all parties serving the Twin City fluid milk market. This plan went into effect on September 2, 1933. On February 1, 1934, the Secretary of Agriculture canceled the marketing agreement, and left the license (No. 5) as the sole means of Federal supervision. Because of this change in Federal policy, license (No. 5) was replaced 2 weeks later with a new license (No. 32). The latter regulation was not as comprehensive in its regulatory powers, but it remained in effect from February 16, 1934, until April 18, 1944. After August 1935, however, whatever effectiveness License No. 32 had was primarily due to the willingness of the TCMPA and a majority of the distributors to abide by its administrative rulings, because it was then considered by the U. S. Department of Agriculture to be unenforceable as a legal instrument.

Adoption of the First Federal Milk License and Marketing Agreement, No. 5

The enabling act had been in effect only a little more than a month when the Twin City Milk Producers Association attempted to obtain a Federal marketing agreement and license for the Twin City milkshed. The market had already been stabilized after the price war earlier in the year, but there was doubt that the stability would persist. The association placed considerable emphasis upon the part such an agreement could play in perpetuating that stability--particularly if it effectively outlawed the so-called "unfair tactics" used by outlying creameries and cheese factories in their efforts to obtain a larger share of the fluid milk market. Distributors and producers felt that the price relationships then in effect closely approximated equilibrium prices for the Twin City fluid milk market.

TCMPA officers held two meetings with Twin City distributors in June to discuss the advisability of applying for a marketing agreement and license. Most distributors were in favor of the Federal agreement, the principal dispute between them and the producers cooperative centering around the level at which producers' prices should be set. Accord was reached on the basis of $1.42 for 100 pounds of 3.5 percent milk, and on June 26, 1933, the association's representatives took the jointly proposed agreement to the U. S. Department of Agriculture, for review and eventual approval.

At the public hearing held in Washington on July 24, 1933, representatives of six large milk distributors, two dairy labor unions, the health department of Minneapolis, and the Twin City Milk Producers Association all testified in favor of the proposed agreement. A minor disagreement arose among the proponents over the wording of several sections, but these were clarified before testimony was taken for the record. The TCMPA's president first outlined the chaotic conditions that existed in the market during 1932 and 1933, and expressed the belief that the proposed agreement would forestall any such future developments. Similar faith in the efficacy of the proposal was expressed in subsequent testimony by representatives of the distributors of both cities and by representatives of the labor unions and the health department. The Board of Health representative testified that the retail price schedule contained in the agreement was reasonable and satisfactory and in the consumers' interest. No one appeared in opposition to the formulation of the marketing agreement, and no amendments were proposed by parties other than the original proponents. The only brief filed in opposition to the proposed agreement came from sanitary milk bottle cap manufacturers. They protested certain fair-practices provisions which prohibited the use of special caps on market grades of milk and cream. More than a month elapsed before the Secretary of Agriculture approved Marketing Agreement and License No. 5 on August 29, to be effective September 2, 1933.

The agreement and license was signed by the TCMPA, as representing the approval of from 75 to 80 percent of the producers, and by 25 distributors, representing from 81 to 85 percent of the volume of milk sold, and was well received by the market. As adopted, the agreement and license represented the program of the local market interests and contained few (if any) provisions that were insisted upon by the USDA over local objections. Its 27 pages of regulations with supporting exhibits and schedules was voluminous, as compared with present-day regulatory instruments, and they provided for:

(1) A minimum price to producers of $1.42 a hundred pounds of milk and a retail price of 8 cents a quart, to be succeeded by a producers' minimum price of $1.70 a hundredweight and a retail price for bottled milk of 9 cents a quart when the price of 92-score butter in New York reached 26 cents a pound for 7 consecutive days.

(2) A classification of distributors into four groups, in accordance with their method of purchasing fluid milk from the local producers (see p. 51 for an explanation of the four methods), and a detailed pricing procedure to insure that the distributors in each classification paid identical prices for their fluid requirements of milk and cream at both the 8- and 9-cent retail milk levels. An integral part of this pricing procedure was the continuance of "spread payments" 3/ to the TCMPA.

3/ Whenever a distributor signed a full-supply contract with the TCMPA, the distributor was usually permitted to continue receiving milk

(Continued on page 43)

A unique feature of the pricing method was a clause in the license which provided that: "In spite of anything in this paragraph to the contrary, the net price paid to producers for all milk received by said distributors, shall in no event be less for any calendar month than the blended price paid by the Twin City Milk Producers Association to its producers for the same month." This clause was developed to guard against any unforeseen method of evasive action on the part of distributors who purchased milk from independent producers, but in later years it became the sole means of sustaining the effectiveness of the milk licensing program in the Twin Cities.

(3) A schedule fixing the exact wholesale and retail prices that distributors could charge for pasteurized milk and cream in various-sized containers. These listed prices, however, were to be construed only as minimum prices for raw milk sold by producer-distributors.

(4) An elaborate schedule of fair trade practices governing the competitive activities of all distributors in their business and sales operations.

(5) A local agency or committee to administer the powers set forth in the regulation.

(6) A license through which the detailed terms and regulations were imposed upon all distributors whether or not they were signatories to the agreement.

Although the local marketing agreement and license was part of a general Nation-wide program promulgated in 1933, it differed from the general pattern of agreement-licenses in several important ways:

(1) A major purpose of the enabling act was to increase prices to producers, but the Twin City agreement-license originally provided a

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Footnote 3 continued:
from regular producers who were not members of the TCMPA. Such producers were actually named in the contract. Since the association agreed to supply all the remaining quantities of milk needed by the distributor, the contract was, in effect, adjusted for the seasonality of production of the nonmember producers. To compensate for this service accorded the distributor, the contracts provided that for all milk purchased from nonmembers, the distributor pay the association a "spread" payment, which represented the difference between the established market price for fluid milk and the blend price paid directly to member-producers of the TCMPA. This procedure, in effect, required the distributor to pay the same price for milk whether received from the association or from the nonmember producer, and at the same time it insured that TCMPA members would receive at least as high a price as nonmembers for their fluid production. The Federal marketing agreement and license considered the payment as a service charge for regulating the supply of milk to fill the demands of the contracting distributors.

price to producers that was only 2 cents a hundredweight higher than the "free" market price that prevailed during July and August 1933.

(2) The agreement did not serve as an instrument for introducing new marketing arrangements and relationships.

(3) It did not contain any geographic definition limiting the production areas for the market; nor did it impose any form of a base rating plan for the control of surplus milk. Nearly all other agreement-licenses contained such provisions, and the base rating plans were used primarily for whatever effect they might have had in controlling production rather than to correct problems associated with seasonality of production, as is done today. The production increases that were expected as a response to price increases in the United States fluid milk markets were to be held in check in the Twin City market by keeping local fluid milk prices close to their normal relationships with the prices for manufactured dairy products, particularly for butter and cheese.

The agreement and license was amended once, on November 29, 1933, in order to permit a retail price of 9 cents a quart and a producer price of $1.70 a hundred pounds to be established for the market. In addition, the schedule of fair competitive practices was simplified in the agreement and expanded in the license to effect a uniformity in the regulation. The Twin City agreement-license remained in high favor and in full effect after the amendment, and the milk trade in particular was pleased with its successful operation.

Adoption of the Second Federal Milk License, No. 32

The principal market interests were seriously disturbed a short time later when, on January 8, 1934, they were notified by telegram from Washington that all agreements were to be canceled. They were advised that the license could remain in effect only until it was replaced by another one which would reflect the Agricultural Adjustment Administration's new policy of not establishing and enforcing (or attempting to enforce) a complete schedule of distributors' wholesale and retail prices. The new policy did allow protection against certain unfair competitive practices, however, and permitted the establishment of minimum wholesale and retail prices under certain special and specified circumstances. The Twin City Milk Producers Association was also advised that to conform with the new AAA policy, a new Twin City milk license would have to provide for a 10-cent reduction in the producers' milk price to $1.60.

The producers' association and the contracting distributors were faced then with two unpalatable alternatives: (1) To cancel the agreement-license and return to the prelicense competitive era; or (2) to accept the new license with its lower price and less protective features. There was no such choice, in reality, for most interests felt that without some form of governmental participation another milk war would be imminent. Before acceding to the change, however, the market interests tried to convince the AAA that the original policy of fixing producers' prices and distributors' resale prices was the best program for the Twin City market. The Governor of the State of Minnesota personally helped a distributor's representative present such an argument to the AAA officials in Washington. Although a 2-week extension was granted producers in the Twin City market, the national policy had been set and the old license subsequently was replaced with one reflecting the new pricing policies.

The new License No. 32 (without an agreement) was promulgated by the Secretary of Agriculture on February 16, 1934, and differed from the original in two principal respects: (1) The schedule of specific resale prices on all fluid milk products at the wholesale and retail levels was replaced with one that only set a minimum price below which no distributor serving the market could legally sell milk or cream; and (2) the producers' price for 3.5 milk was reduced from $1.70 a hundredweight to $1.60. Many persons felt that the specific fixed prices under the original licenses had allowed many efficient distributors to make excessive profits, and all distributors to benefit relatively, because of the price maintenance. The new AAA policy was formulated in the anticipation that resale prices would soon be reduced to the minimum level through the impetus of competition among the various distributors.

An important administrative change in the new license was the provision empowering the Secretary of Agriculture to appoint a representative to perform various functions assigned to the Secretary. This representative--the forerunner of the present-day milk market administrator--was appointed on March 6, 1934, and he introduced a direct means of Federal participation in the administration of the license. The new license retained the clause that required all handlers to pay independent producers not less than TCMPA's blend (paying) price to its producer-members.

The Twin City License No. 32 proved to be an effective means of regulating the price of producer milk during the period from its promulgation in February 1934 through August 1935. It was amended five times during that period--four times to institute changes in the basic price for producer milk and once to increase the butterfat differential from 3 to 4 cents.

The net effect of the series of changes in the Twin City licenses during 1934 and 1935 was to strip them of most of their regulatory phases except the setting of minimum prices to producers. The exact retail and wholesale price schedule was removed when the new license was promulgated in February 1934; the minimum retail and wholesale price schedule was eliminated on June 5, 1935; and the power to raise or lower the specified minimum producer price for 3.5 percent milk was taken away by the amendment to the Agricultural Adjustment Act, approved on August 26, 1935, which substituted orders for licenses and provided that existing licenses could be continued but not changed in any respect.

The Inactive Phase of License No. 32, September 1935 to April 18, 1944

The abandonment of the Federal milk licensing program on August 26, 1935, placed the principal Twin City market interests in a difficult position. Even though the license had worked well in the local market, the new national policy was to replace licenses with "orders" promulgated under the new amendments to the enabling act. The TCMPA would have accepted this change, but the U. S. Department of Agriculture hesitated to apply an order to the Twin City area on the grounds that the market would not qualify as an interstate market as that term was interpreted in court decisions at the time. The association then had only one alternative short of direct cancellation, and that was to retain the license even though it could not be amended to reflect any specific minimum price other than the $1.75 a hundredweight then prescribed. In addition to serving as a "floor," the license afforded the only means of retaining the Federal representative to administer the provisions of the license relating to the milk-buying and -pricing practices of various distributors. The major market interests considered his presence an important requisite to continued market stability.

It is particularly important to note that the Twin City license played a role in the pricing of fluid milk and cream for a period of about 8 years (September 1935 to February 1943) after the licenses had been "frozen" and the USDA declined to enforce their provisions by court action. Three factors combined to make the license operative:

(1) The presence in the market of a dominant producers' cooperative, the TCMPA, which supplied 85 to 90 percent of the milk.

(2) A real desire on the part of the TCMPA and its contracting distributors to retain a Federal representative in the market as an instrument in maintaining a minimum producer price structure for milk and cream.

(3) Two unique clauses in the license which permitted it to reflect a flexible minimum price for producer milk that had to be paid by all distributors in spite of the fact that it could not be amended. This was accomplished by two sections of the license which required that:

> (a) Any distributor who purchased part of his milk supplies from TCMPA and part from independent producers was to pay the TCMPA a "spread" payment. This payment equalized the cost of milk from each source.
>
> (b) Any distributor who purchased all of his milk supplies from independent producers (producers not members of TCMPA) was to pay a minimum price that at least equaled the monthly blend price used by TCMPA in paying its producer-members for similar shipments of milk.

These clauses were designed to eliminate any potential advantage a distributor might get by shifting his source of supply, and thereby reduced the likelihood of any dealer attempting to gain volume by obtaining milk from farmers at lower prices than those paid by competing dealers. Fixing the minimum price for fluid cream was never an issue during this period, since the license provided that the price level established by a formula would also serve as the specified minimum price applicable to all distributors.

The major defect of the "inactive" license was that the minimum price for milk delivered to the Twin Cities could not go below $1.75 without automatically forcing the cancellation of the license; if this occurred, the market would be outside the scope of continued Federal regulation until the courts extended the scope of the interstate commerce clause. The market never had to face that problem, however, for in the succeeding years during which the license remained effective the prices of dairy products, and of all commodities, remained above the June 1935 level.

Although the Twin City license (No. 32) had the distinction of being the last one to be canceled (on April 18, 1944), evidence indicates that the TCMPA made several serious attempts during this period to obtain more active Federal regulation of the fluid milk market.

Producer Attempts to Replace "Inactive" License with More Rigid Federal Regulation

The TCMPA tried to obtain a Federal milk order for the local market as early as November 1935, but the USDA advised against such an action. By November 1936 the association's contracting distributors demanded that it lower the price of milk to them as an aid in meeting competition of new dairies selling higher test milk at regular prices as well as to offset higher labor costs resulting from the provisions of a new contract with the labor union. The executive committee of the TCMPA refused to reduce producer prices for these reasons, but requested the USDA to propose a program which could serve to resolve the problems. They indicated approval for any plan sponsored by the Agricultural Adjustment Administration that would receive the concurrence of all the principals in the Twin City market if the program would be supervised by a resident Federal administrator.

The AAA developed some aspects of an order as it should relate to the Twin City market, but later notified the market interests that the Federal courts had not yet established whether an order had the power to regulate milk in markets where there was little or no movement of fluid milk across State lines. They suggested, as an alternative, that the market interests develop a marketing agreement with the Secretary of Agriculture based on a local supply and marketing agreement between the different groups of producers in the Twin City market and their handlers. Such agreement did not require the contracting parties to be located in an area that qualified as an interstate market. The procedure for implementing this program, in lieu of an order, was as follows:

1. Obtaining approval of the supply agreement by the board of directors, TCMPA.

2. Obtaining approval of the supply agreement by distributors and by other cooperatives and producer groups in the marketing area.

3. Signing by each cooperative or producer group of an individual supply agreement (with a marketing agreement attached), with each of their distributors.

4. Holding of a Federal public hearing in themarket, after which all the distributors would sign the marketing agreement (without the supply agreements attached) as signatories with the Secretary of Agriculture.

After producer and distributor groups in the market signed the agreement, both parties would be bound, as in a civil contract. The signing by the distributors in conjunction with the Secretary of Agriculture was done to protect the dealers from prosecution under provisions of the antitrust laws as far as the provisions of the agreement were concerned. It also would have the effect of assuring local consumer groups, newspapers, and city and State authorities that the agreement would remain under the general supervision of the Federal Government.

The producer's association favored this type of regulation since it would protect their market position and at the same time would allow them to move away from butter prices in negotiating a fluid milk price with distributors. Labor union officials supported the plan because the higher fluid milk price structure would soften the effects on distributors and TCMPA of the new labor contract. The TCMPA objected to the provision which allowed the Secretary of Agriculture to select and control the market administrator, but it continued to have a measure of local control by a provision which required the regulation to be withdrawn upon the request of more than 50 percent of the producers in the market. This amounted to a veto power, since the association membership comprised about 85 percent of the producers in the market. The contracting distributors expressed concern about raising producer prices by allowing them to move away from their close relationship with butter prices, but approved the plan in the belief that it would contribute to market stability.

The plan needed the approval of other producer groups in the market before it could be promulgated, and arrangements were made for the Federal officials in the area to meet with such producers and explain the projected program. These meetings had been held in only a few areas when three milk distributors, who did not rely on the TCMPA for milk supplies, threatened to lodge formal complaints with their congressional representatives against the appearance of local Federal officials at such discussions. These distributors felt that the presence of such persons would lead independent producers to consider the plan an official governmental program rather than a proposal sponsored by the TCMPA. The principal protester among these independent distributors had been cited by the market administrator for not always paying at least the minimum price for fluid milk and cream specified in the Twin City license.

This marketing agreement-contract approach to regulating the local fluid milk market encountered unexpected trouble when attorneys advised the TCMPA that such agreements undoubtedly constituted a violation of article 4, section 35, of the constitution of the State of Minnesota, which provides that:

> (For) any combination of persons, either as individuals or as members, or officers of any corporation, to monopolize the markets for food products in this State, or to interfere with or restrict the freedom of such markets, is hereby declared to be a criminal conspiracy and shall be punished in such manner as the legislature may provide.

The legal opinion was that the agreement-contract constituted "an attempt to fix, control, and regulate the price of milk in the Twin Cities Area."

It was suggested that the Attorney General of Minnesota might agree to forego prosecution because of the market-wide scope of the agreement-contracts, but advice was that such action would protect the parties from fine or imprisonment only under the criminal provisions of the law; they still would be liable to civil action and damage payments should other parties institute such action and prove their allegations. The cumulative effect of all these objections to the agreement-contract type of control was to convince the principal market interests that this approach to fluid milk market regulation would have to be abandoned. Under these circumstances, the Federal license was retained as the instrument for market control until its effectiveness was superseded by the OPA pricing regulations and the War Food Orders issued between 1942 and 1945.

Regulatory Provisions, Federal Milk Licenses No. 5 and No. 32, 1933-44

The original Twin City milk license (No. 5) contained provisions that regulated nearly all the competitive aspects of the local fluid milk industry. These included the power to fix wholesale and retail prices for milk, cream, and other fluid products; the power to fix and enforce the minimum prices that producers would receive for such milk supplies; and the power to regulate distributors' activities by outlawing nearly every type of "unfair" competitive practice. Although the Federal milk licensing program remained operative in the Twin Cities from 1933 to 1944, these regulatory powers gradually were eliminated. After 1935 the sole and questionable power of the license lay in its pricing provisions for producer milk and cream. Each important phase of the licensing regulation will be summarized chronologically in this chapter, and an attempt will subsequently be made to evaluate the economic significance of this transition in regulatory power.

Applicability of Provisions

Since the Federal milk marketing agreements and licenses were legal instruments designed to control certain operating practices of fluid milk distributors, it was necessary to limit the applicability of the regulations by strict definitions of such terms as "distributor," "producer," and "sales area." Restated in more general language, the two Twin City licenses defined these terms in the following manner:

1. A producer (who would be eligible for the minimum prices specified under the licenses) was any person or association of persons who produced milk that was later sold for consumption as fluid milk in the Twin City sales area.

2. The Twin City sales area included the cities of Minneapolis and St. Paul and contiguous towns, villages, and townships and U. S. Government reservations.

3. Fluid milk meant any milk, fluid cream, or products therefrom sold for consumption in the Twin City sales area except for cream that was used in the manufacture of ice cream, butter, or cheese.

4. A distributor was any person, operating in the sales area, who--

    a. Pasteurized, bottled, or processed fluid milk;

    b. Distributed fluid milk, at wholesale or retail to consumers, hotels, stores, etc., for consumption on the premises; or to stores or other establishments for resale; or

    c. Operated stores or establishments and sold fluid milk at retail for consumption off the premises.

None of the terms were redefined when License No. 32 replaced Agreement-License No. 5, nor were any changes made in their wording or scope during the 10-year period that License No. 32 remained in effect.

Classification and Pricing of Producer Milk and Cream

Any history and analysis of governmental classification and pricing of fluid milk and cream in the Twin City area must be prefaced with a brief review of the unique structure of the local fluid milk market. The TCMPA has supplied Minneapolis-St. Paul distributors with more than 85 percent of their fluid milk requirements. In addition, the association has owned and operated manufacturing and processing plants to handle all of its own surplus milk (milk not sold for fluid uses in the Twin City area). This plan of operation permits the producers' association to supply distributors with the quantities of milk and cream needed to balance receipts with sales; local distributors, in turn, do not have to maintain processing plants to handle the milk not used for fluid purposes. Under this market structure Twin City dealers have always paid the association one price for one class of milk.

Producer Milk. The original agreement-license (No. 5), and its successor license (No. 32), reflected this local classification and pricing custom by promulgating provisions requiring all distributors to pay producers one and the same price for all milk supplies, regardless of its source or eventual use. This was accomplished by classifying all milk distributors into four different classes, in accordance with their method of obtaining milk supplies, and then requiring each class of dealer to follow a different, but prescribed, method of paying producers. Although the license minimum price and the actual paying price for producer milk changed many times between 1933 and 1943, the principle of classifying distributors and requiring each class of dealer to use a different procedure in paying for his receipts remained an integral part of the Federal license as applied in the Twin City market until 1943, when the strong demand for dairy products pressed prices against the maximums established by OPA pricing regulations.

The distributor-classification and pricing plan began with Agreement-License No. 5, and was as follows:

Class A distributors were those who bought their total supply of fluid milk from the Twin City Milk Producers Association; they paid the association the minimum price specified by the license for such milk f.o.b. the distributors' plants.

Class B distributors were those who received their milk supply from two sources--some supplies from specified independent farmers and the remainder as required from day to day from the TCMPA. For that part of their supplies purchased from the TCMPA, Class B distributors paid the same price under the same conditions as Class A distributors. For milk supplies purchased from independent producers, the distributors were required to pay farmers at least as much as TCMPA's "blend" price to their member producers; the spread, or difference between such actual paying prices and the minimum price specified for the market by the license, was to be paid to TCMPA as a service charge for balancing the dealer's supplies with his sales.

Class C distributors were those who bought their entire supply of fluid milk from independent producers (those not members of the TCMPA). In order to protect such producers, the agreement-license required a distributor to purchase all the milk produced by such farmers for a period of at least 1 year. Class C distributors were required to pay independent producers from whom they purchased milk the minimum price specified by the license. This price was subject to downward adjustment for location and for manufacturing expense, however, because of the requirement that Class C distributors buy the total milk supply of their producers for at least a 1-year period. To compensate for the milk received but not sold as a bottled product, Class C handlers were permitted to deduct the monthly expenses incurred in manufacturing this milk into suitable byproducts before calculating their paying price to producers. Under no circumstances, however, could this adjusted price be less than the blended price paid by the TCMPA to its producer-members for the same month.

Class D distributors were producers who bottled and distributed only the milk and cream produced on their own farms. These producer-distributors were bound by all the marketing practices and resale prices specified in the agreement-license, and were as subject to the penalties it provided as were any other class of distributor. The producer-distributors were dropped from the distributor classification with the promulgation of License No. 32, and were subject to its provisions only when and if they purchased extra milk supplies from other producers in order to meet their customers' demands.

Producer cream. Governmental pricing and regulation of cream sales presented a greater problem than that of fluid milk, because many of the creameries surrounding the Twin Cities were important competitors of TCMPA in the sale of fluid cream to distributors. The contracts that were in force between most distributors and the TCMPA, coupled with the farm inspection requirements for milk, curtailed seriously the power of the outlying creameries to penetrate the fluid milk market. In the case of cream, however, the market situation was entirely different. Farm inspection was not and is not mandatory for the production and sale of fluid cream for the Twin City market, and the outlying creameries competed actively with each other and with the TCMPA for sales outlets of fluid cream. Most of the outlying creameries were able to obtain all their cream supplies from farmers at straight butterfat prices; thus, on any cream diverted to the local market they possessed a competitive advantage over distributors whose fluid cream was obtained from supplies of milk regularly shipped into the sales area.

In recognition of these interrelationships between alternate sources and disposition of cream and milk in the Twin City area, the agreement-license required all distributors to pay producers for cream according to the following plan, based on market custom:

(1) For each pound of butterfat in the fluid cream purchased from November 1 through June 30 of any year the buying price had to equal the wholesale price of 92-score butter on the New York market as reported by the Bureau of Agricultural Economics, plus 22 percent.

(2) From July 1 through October 31 of each year the buying price was the same as the New York butter quotation, plus 25 percent.

Both of these prices were f.o.b. the distributors' plants, and applied regardless of the price level of fluid milk.

History of Pricing Provisions for Producer Milk, Twin City Licenses, 1933-43

Original agreement-license (No. 5). The original Twin City agreement-license was unique in the sense that two different "packages" of prices were included. One schedule of prices was known as the "8-cent (retail) milk basis" and the other as the "9-cent milk basis." Each "basis" provided for its own producer price level, and included an elaborate schedule of actual wholesale and retail prices that were obligatory upon all distributors in the market. The 8-cent milk basis, which provided for a minimum price to producers of $1.42 per hundred pounds of 3.5 percent milk, was made effective with the promulgation of Agreement-License No. 5 on September 2, 1933. This price was 2 cents above the $1.40 level established by and operative in the "free" market prior to Federal regulation.

Opinion in the market, however, was that butter prices soon would strengthen seasonally, and that this, in turn, would permit higher fluid milk prices. The administrative procedure required a public hearing, the taking of testimony, the filing of briefs, and time for decision-making by USDA officials before a minimum price could be changed. Twin City dairy interests attempted to avoid the delays inherent in this procedure, however, by asking for a provision in the agreement-license that the minimum price of producer milk would automatically increase to $1.70 a hundredweight, without the prior approval of the Secretary of Agriculture, whenever the wholesale price of 92-score butter in New York averaged at least 26 cents a pound for 7 consecutive days. This change had to be approved by 65 percent of the producers and 65 percent of the distributors (by volume) before it could become effective. The formula also was designed to work in the opposite direction under the same conditions whenever the afore-mentioned butter prices averaged less than 26 cents a pound for 7 consecutive days. This automatic pricing provision never became operative, however, and the $1.42 producer price remained the official minimum price until changed by an amendment to the agreement-license in November 1933.

Amendment to Agreement-License No. 5. One month after the agreement-license became effective, TCMPA representatives met with distributors of both cities to consider an immediate price increase. Their proposal was to amend the agreement-license so that it would permit an automatic price increase to the "9-cent milk basis" when the New York butter market reached 24 cents instead of the 26-cent level originally provided for.

This would have permitted the higher price schedule to become effective immediately without recourse to producer and distributor approval, thereby increasing the producer price by 28 cents to $1.70 a hundredweight.

A public hearing was held November 9, 1933, at University Farm in St. Paul to consider the proposed amendment. The producers' position was that:

(1) The butter market had not taken its normal seasonal upswing in the fall, and the provision for an automatic milk price increase could not reflect the higher fluid milk price that was normal for the short-supply fall months.

(2) Producer, as well as retail, prices for milk in the Twin City area were lower than those for any other city market of similar size in the United States.

(3) The price for milk for fluid uses was down nearly to the level of returns from milk used for manufactured dairy products.

(4) Production costs on the farm and in the milk plants had increased, partly because of higher quality standards imposed by the new milk ordinance and partly because of the effects of the National Recovery Administration program.

Minneapolis and St. Paul health department officials testified in favor of the price increase because of the additional expenses incurred by farmers in meeting the new health requirements. They also testified that the price increase was justifiable on the basis that milk was underpriced in relation to other city markets and its food value when compared with other foods.

All the distributors supported the price increase; they had two good reasons for urging its adoption. First, retail sales prices of all cream would have been increased by this amendment without altering the distributors' paying price, thereby increasing the dealers' margins. In addition, a 1-cent increase in retail and wholesale milk prices meant more than 40 cents additional income per hundred pounds of milk as against a cost increase of 28 cents.

The proposed amendment subsequently was approved by the Secretary of Agriculture, and it became effective on November 29, 1933. Accordingly, a minimum price to producers of $1.70 for each hundred pounds of 3.5 percent milk was established for the market, and it remained at that level until the promulgation of License No. 32 in February 1934.

License No. 32. When a change in national AAA policy forced the Twin City market to replace the original agreement-license No. 5 with a Federal license (No. 32) on February 16, 1934, it also forced the TCMPA to accept an immediate 10-cent reduction in the minimum price for producer milk to $1.60 a hundredweight.

First Amendment, License No. 32. As early as June 1934 representatives of producers and distributors met to discuss the advisability of amending the license to increase the minimum price to producers to $2 a hundredweight. The TCMPA's contracting distributors opposed the price increase, and no formal action was taken. As summer progressed, however, drought conditions caused a decline in the production of milk, prospective feed supplies were short, and the butter market began to advance in price. These factors prompted the TCMPA, on August 9, 1934, to petition the Secretary of Agriculture for a price increase to $2.

The Secretary of Agriculture could promulgate changes in the licenses if the proposed amendments concerned issues discussed at previous public hearings. Since the issue of minimum prices to producers had been discussed and since the price amendment involved no other substantive changes in the license, it was considered by the Department of Agriculture without recourse to a public hearing. Written testimony was that the distributors had no serious objections to the price increase, particularly because their minimum resale prices likewise would increase. The increase subsequently was approved by the Secretary of Agriculture on August 16, and became effective August 17, 1934.

Second Amendment, License No. 32. The $2 price had been in effect about 1 month when the distributors petitioned the USDA to reduce the producers' minimum price to $1.70. Their testimony indicated that market-wide fluid milk sales had decreased greatly, principally because fluid milk prices had been increased out of proportion with the price of evaporated milk. Individual distributors claimed volume losses as high as 41 percent. At the same time, late summer and early fall rains restored crop conditions and improved feed supplies enough to increase milk production beyond normal expectations. The butter market began to weaken, in turn, and the $2 price of fluid milk encouraged creameries contiguous to the Twin Cities to seek a share of that market. As a result of these factors, the TCMPA supported the dealers' demands to lower the minimum price on producer milk to $1.70.

The new amendment had been signed, but had not yet gone into effect, when TCMPA's contracting distributors threatened to ignore the license and pay a still lower price. Although they had proposed the amended price of $1.70, the dealers felt that the continued decline of cream prices necessitated another downward adjustment in fluid milk prices. They also requested the association to assume part of the expense of distributing milk to persons on relief, and to consider the advisability of canceling the license because it was not being enforced adequately. The TCMPA agreed to sell part of the relief milk at prices that would be equivalent to returns for milk used in manufactured dairy products, but they supported a continuance of the license in the belief that it had real merit for stabilizing local marketing conditions. The license remained in effect, and the new minimum price of $1.70 a hundredweight was promulgated on October 25, 1934.

Third Amendment, License No. 32. Butter prices increased 2 cents a pound within a month and a half after the $1.70 minimum became effective. Milk production costs likewise had increased during the winter, and local market interests felt these factors had eased the competitive situation enough to justify an increase in fluid prices. After considerable negotiation with its distributors, the TCMPA agreed to a price of $1.95 a hundredweight, provided it made no further contributions to charity milk. The Secretary of Agriculture approved the new minimum price of $1.95, by an amendment issued on December 21, 1934, which became effective December 23, 1934.

Fourth Amendment, License No. 32. Ten days after the amendment of December 23, 1934, became effective, TCMPA telegraphed the USDA requesting an increase in the butterfat differential from 3 to 4 cents for each one-tenth of 1 percent variation above or below 3.5 percent. Creameries and other milk-buying plants in the area contiguous to the Twin Cities had increased their paying price for butterfat in response to higher butter prices. No adjustment had ever been made in the butterfat differential specified by the Federal licenses, with the result that farmers were receiving a higher price for butterfat used for churning or for sweet cream than they were for the butterfat contained in milk used for fluid purposes. An amendment to increase the differential by 1 cent was prepared for the approval of the Secretary of Agriculture, who in turn signed the measure and made it effective as of January 9, 1935.

Fifth Amendment, License No. 32. Butter prices began their seasonal decline with the advent of the spring flush in milk production, and once again the relatively higher priced Twin City fluid milk market began to attract milk ordinarily shipped to manufacturing plants. In the interest of maintaining market stability, the TCMPA asked for an amendment to the license which would reduce the minimum producers' price to $1.75. The distributors wanted a still lower price, and agreed to the level only after considerable negotiation. The USDA prepared the amendment, and the Acting Secretary of Agriculture approved it on June 4, 1935, to become effective the following day.

"Inactive" Phase, License No. 32. Even though the Federal milk-licensing program was replaced on a national scale by a program of issuing "orders" to regulate interstate milk markets, License No. 32 played a partially effective role in the pricing of fluid milk and cream to distributors from August 26, 1935, until the advent of the OPA price ceilings on producer milk on February 13, 1943. The actual price of 3.5 percent milk to contracting distributors was determined for this period by negotiation between the distributors and the TCMPA. The negotiated price could not be incorporated into the license. Once the price was agreed upon, however, it became the basis for setting the minimum price which distributors had to pay producers for fluid milk. This was the result of certain provisions in License No. 32, which provided that:

(1) Class A and B distributors pay the negotiated price for their fluid milk requirements.

(2) Class C distributors (those buying outside the TCMPA) pay the negotiated price, less an allowance for the processing and manufacturing of any milk purchased but not sold as fluid. Under no circumstances could these allowances lower the price to their producers below TCMPA's blended price to its producer-members.

(3) All distributors pay for cream the minimum price to producers which was determined by the formula established in the license.

The only significant limitation imposed by the "inactive" license was that the distributors' paying price for fluid milk, as determined by negotiation, could not fall below $1.75 without automatically forcing final cancellation of the license and removing the legal basis for retention of a Federal representative to supervise the market.

The dealers' paying price for milk changed 37 times between August 26, 1935, and February 13, 1943 (the effective date of OPA price ceilings on producer milk). Each change in price during the first 2 years was negotiated separately. Beginning May 1, 1937, prices were set by formulas negotiated by TCMPA and its contracting distributors. The formulas introduced an element of automatic flexibility to the pricing mechanism, and were based on the levels of, and the fluctuations in, butter price quotations for the New York market. The price schedule in force from May 1, 1937, to March 1938, serves as an excellent illustration of the formula; it was as follows:

(1) Determine the average price of butter for the month by using the quotation for New York Extras.

(2) Determine the dealers' paying price for 3.5 percent milk in the Twin City market for that month by reference to the following tabulation:

New York Extras, average price per pound	Distributors' paying price, 3.5 percent milk, per hundredweight
Cents	Dollars
31 or less	2.00
32	2.05
33	2.10
34	2.15
35 or more	2.20

Although later price schedules differed in the specific distributors' price that corresponded to a given level of butter prices (the schedule effected in March 1938, for example, specified a paying price of $2 per hundredweight whenever butter prices averaged 33 cents per pound), they all were based on the relationship that a 1-cent change per pound in butter prices equaled a change of 5 cents per 100 pounds of milk.

The Pricing and Distribution of Fluid Milk and Cream at Retail and Wholesale

Although the Federal milk agreement-license program provided machinery for establishing a minimum price to producers, the TCMPA and the distributors it supplied favored the program more because of its power to fix specific wholesale and retail prices for fluid milk and cream and its power to outlaw the "unfair" competitive practices used by small and outlying suppliers in their intermittent attempts to obtain a share of the fluid milk market. The TCMPA officials felt that nearly all of the distributors would pay producers the minimum prices specified in the license if they, in turn, were protected from the resale price-cutting activities of a small group of dealers who maintained their market position by purchasing milk from producers at prices below those paid by the large, established distributors.

Original Agreement-License No. 5. The "package" of prices that was part of the original Twin City agreement-license provided for a wholesale and retail price schedule based on a retail price for 3.5 percent milk of 8 cents a quart and 6 cents a pint. The exact price of the schedule had to be charged by all distributors for all types of pasteurized milk and cream. All sales of bottled products had to be in specified sizes, and then only within the narrow butterfat percentages allowed in the license. The latter provision was designed to forestall such "nonprice" competition as increasing the butterfat content of a fluid product while charging the per-quart price specified in the license. It was considered legal to increase the sales price by the amount of any legally imposed State sales or occupational tax, provided all distributors added the exact amount of the levy.

For the most part, the prices listed under the "8-cent milk basis" were the prices that prevailed in the market just prior to the time the agreement-license became operative, although the fluid products were not as uniformly standardized for butterfat content as was required by the regulation.

It is also important to note that distributors' margins were fixed on all milk sales, but the pricing formula for producer cream allowed dealers' margins to fluctuate inversely with changes in the price of butter. This situation arose from the fact that the distributors' paying price and selling prices for fluid milk were set at a fixed amount by the terms of the license. The selling prices for fluid cream were also fixed at a specific level, but the paying price varied in accordance with changes in the price of butter. Under these circumstances, the size of the dealers' margins increased whenever the price of butter decreased (and thereby lowered the dealers' paying price).

A considerable part of the testimony at the first public hearing was devoted to the question of whether to provide for a differential between the delivered price for milk and the store price for it, but all three market factors--producers, distributors, and labor unions--were united in their stand. The distributors' representative testified that the maximum amount of milk is sold when delivery trucks and stores use the same price; the Minneapolis Retail Grocers Association introduced testimony favoring a single price for milk whether delivered or sold in stores; producer interests held that lower store prices would not increase sales; and the labor union representative testified that regular deliveries, with the driver contacting the consumer, increased greatly the volume of milk sold. It was pointed out that St. Paul dairies used the same price for delivered milk as for store milk and that abuses in milk pricing were negligible there, whereas in Minneapolis the market became demoralized when stores sold milk, as a loss leader, at prices which were below those for home-delivered milk.

When the agreement-license was put into effect, stores were required to charge the same price as delivery wagons for all fluid milk, cream, and milk products. However, "cash-and-carry" dealers who desired a reduction in their legal selling price were permitted to petition the Secretary of Agriculture for a hearing. After the hearing, the Secretary could reduce the retail price for such stores, Provided:

(1) That the milk was from properly inspected sources.

(2) That the producers were paid the minimum prices set forth in the agreement-license.

(3) That the amount of the price reduction was no greater than the savings that might result from distributing milk on a "cash-and-carry" basis rather than through any other method.

(4) That all other terms and conditions of the agreement-license had been met by such petitioning distributors.

In spite of this provision, however, no retailers ever made an effort to amend the retail pricing schedules set forth in the agreement-license.

From the standpoint of the local market interests, an important part of the agreement-license was the section devoted to the definition of fair-trade standards and to the outlawing of certain competitive practices considered unethical or disturbing to market equilibrium. During the public hearing, the labor union voiced concern over the conditions under which peddlers would be allowed to operate. Producer and distributor representatives pointed out that delivery licenses would be issued in the name of the pasteurizing plants that supplied the peddlers, and that it would be the obligation of the plants to discontinue service to any peddler who violated any of the provisions of the agreement. All types of distributors were to be covered by the agreement except stores; there again, however, the plant supplying the store was to be held responsible for enforcing compliance by threatening withdrawals of supply.

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The unfair practices covered by the agreement were set forth in great detail, and were grouped under five major headings: (1) Discounts and rebates; (2) products and packages; (3) destructive competitive methods; (4) credit; and (5) personnel. Under provisions of the license, however, an unfair competitive practice was "any method or device whereby fluid milk is sold or offered for sale at a price less than stated in the license, whether by any discount, rebate, free service, merchandise, advertising allowance, credit for fluid milk returned, loans or credit outside the usual course of business, or other valuable consideration, or combined price for such milk, together with another commodity sold or offered for sale (whether separately or otherwise), or whereby a subsidy is given for either business or information or assistance in procuring business. (13)

These detailed definitions of unfair competitive practices were incorporated into the agreement-license when it was promulgated; the license also placed the reponsibility for policing the pricing practices of stores and peddlers squarely upon the distributors, because of their power to withhold fluid milk supplies from nonconformists. The exhaustive lists of illegal practices contained in the agreement (and simplified in the license) were designed to cover the competitive methods known in the Twin City market. It is apparent that these restrictions limited the methods by which distributors could legally attempt to expand their volume of sales.

First Amendment, Agreement-License No. 5. Although the public hearing held in St. Paul, Minn., on November 9, 1933, was requested by the TCMPA to institute a price increase for fluid milk and cream, two amendments were submitted for the purpose of increasing the operating margins allowed peddlers. The 11 pasteurizing plants that relied on the peddlers to perform a part of their distribution proposed a ¼-cent reduction in the license (cost) price for "peddler and/or inter-dealer sales." It had been the custom to pay their peddlers an extra ¼-cent rebate at the end of each month, but the fair practices code in the agreement-license prevented such payments. The proposed ¼-cent change would restore to peddlers the margin on which they operated prior to the promulgation of the Twin City agreement-license. The peddlers' organization, known as the Independent Dairy Dealers Association of Minneapolis, proposed an increase twice that size.

On the other hand, the Milk Drivers and Dairy Employees Union, Local 471, of Minneapolis, filed a brief vigorously opposing any added margins for peddlers. They likewise expressed opposition to any plan that might establish a differential between the retail price of milk and cream from stores or from the delivery wagon.

The amendment, as effectuated, did not provide the wider operating margin requested for peddlers. A special milk for hospitals, which contained 12 percent butterfat, was included in the list of fluid products governed by the resale price section. The amendment also replaced the detailed schedule of fair competitive practices in the original agreement with a simplified code that was designed to accomplish the same purpose. The agreement and license now contained identical provisions for outlawing the so-called "unfair" practices often employed by distributors in their attempts to supply a part of the fluid milk market.

License No. 32. As a consequence of the broad changes in Federal policy announced in January 1934, the fixing of specific wholesale and retail selling prices for fluid milk and cream was discontinued. The new Twin City license (No. 32) contained a simplified schedule of minimum resale prices below which no distributor in the market could sell the specified types of milk or cream. Most Federal milk licenses issued after January 1934 contained no provisions of any kind concerning resale prices. Minimum resale price schedules were established for the Twin City area, however, as a protection against the relatively large number of producer-distributors then active in the local market.

The license prescribed a minimum retail price of 7 cents a quart for milk containing 3.9 percent butterfat or less. At the time the issue was under discussion in the USDA, the Consumers' Counsel Division of AAA approved a retail price level of 7 cents for milk. This agency concluded, however, that the dealers' margins for wholesale milk and for all cream sales were too high to be in the public interest, and specifically recommended that minimum prices on cream be lowered. These recommendations were not carried out in the final promulgation of the license.

The new AAA policy of not fixing wholesale and retail prices was the result of such factors as the inability to administer and enforce the regulation, a lack of information on what constituted a proper operating margin, and a conviction that distributors possessed enough independent power to "protect their market position" without governmental assistance. The policy also was changed in the hope that resale prices would be reduced through the impetus of increased competition between the various distributors. The license, then, would serve to insure that producer prices would be maintained during such periods of adjustment.

Distributors in the Twin Cities, however, were satisfied for the most part, with the resale pricing provision and were interested in maintaining the status quo. One of their first actions was the formation of a trade association to accomplish the results made possible under Federal Milk Agreement-License No. 5. Although the new Federal license stipulated a minimum retail price of 7 cents a quart for milk, the distributors adopted a plan advanced by a committee of market interests to abide by a code of fair practices and maintain the 9-cent a quart resale price level (with few exceptions) originally set up under agreement-license No. 5.

A full-time secretary was employed to police the distributors' agreement and to enforce the fair practices code. This representative of the dealers worked closely with the agent of the Secretary of Agriculture assigned to the Twin City market to supervise the administration of the milk license. As an attempt to forestall stores from selling milk at prices lower than wagon (delivered) milk, the committee of market interests gave wide dissemination to the agreed-upon price schedule. It was also published in local daily papers as a public notice under a heading entitled "Milk Regulations, Agricultural Adjustment Administration." The implication of this notice was that the published prices were the legal prices required by Federal License No. 32. The withholding of milk supplies by pasteurizing plants and picketing, largely by union milk wagon drivers, were employed as additional measures to keep the price of store milk in line with the price for wagon-delivered milk.

During this period when License No. 32 was the active vehicle for determination of milk prices in the Twin City market, a change in the minimum price to producers was accompanied by a change in the minimum price to consumers. For example, the reduction in producers' price to $1.60 a hundredweight was put into effect immediately with the promulgation of the new License No. 32 on the basis that the retail price of a quart of milk would be 7 cents. The Twin City distributors, because of the actions outlined above, were able to maintain a 9-cent-a-quart retail price structure during the entire period of $1.60 producer milk. Table 3 shows that distributors were able to maintain a retail price structure that remained from 2 to 3 cents a quart above the minimum retail level prescribed by the license.

Table 3.--Comparative differences between minimum prices prescribed in License No. 32, as amended, and prevailing actual prices per quart of 3.9 percent or less butterfat, by effective dates

Effective date (License No. 32 and amendments)	Minimum price, prescribed in License No. 32, as amended, for milk 3.9 percent or less butterfat per quart	Prevailing actual price for milk, 3.9 percent or less butterfat per quart	Difference per quart
	Cents	Cents	Cents
License 32, February 16, 1934 . .	7	9	2
1st amendment, August 17, 1934 .	8	10	2
2d amendment, October 25, 1934 .	7	9	2
3rd amendment, December 23, 1934.	8	11	3
4th amendment 1/, January 9, 1935			
5th amendment, June 5, 1935 . . .	Abolished from regulation		

1/ Fourth amendment changed only the butterfat differential.

By 1935 the USDA had decided to abolish the minimum resale price schedules in the few markets for which they were established, and this feature of the regulatory program was dropped from the Twin City license when the pricing amendment was made effective on June 5, 1935. The local fluid milk interests accepted the abolition of the minimum resale price regulation without objection, principally because actual resale prices had remained consistently above the established minimum levels.

Miscellaneous Provisions

In addition to the regulatory powers over the pricing and distribution of fluid milk and cream just discussed, the Federal milk licensing program contained provisions governing certain other aspects of the fluid milk market. These provisions added completeness to the regulatory program, and are discussed briefly below.

Dairy Council. The Dairy Council unit in the Twin Cities had always carried out extensive advertising and educational campaigns designed to increase the consumption of milk. Both Agreement-License No. 5 and License No. 32 provided that producers and distributors alike should contribute to its support at the rate of ½ cent for each 100 pounds of fluid milk produced and sold in the Twin City market. The distributors withheld the farmers' share and sent it, together with their own contribution, as a single monthly payment to the Dairy Council for use in its efforts to increase the consumption of milk and dairy products. The TCMPA had long been a contributor to the Dairy Council; the licenses' provisions insured that all producers, members and nonmembers alike, would contribute equally to its support. Other provisions stipulated that the funds, books, and records of the Council were subject to examination by the Secretary of Agriculture or his authorized representative.

Milk Quality. The original Agreement-License No. 5 provided that all milk purchased by dealers for distribution as fluid milk within the Twin City sales area had to be in conformance with the production, processing, and distributing standards of either the Minneapolis or St. Paul health ordinances, except in those areas within the sales area where a contiguous municipality had a fully effective health ordinance. This provision was deleted when License No. 32 replaced Agreement-License No. 5 as the regulatory vehicle on February 16, 1934.

Membership in the Twin City Milk Producers Association. As previously pointed out, the Twin City agreement-license was unique among the early Federal licenses in that no geographical limits were placed upon the production area which could supply the fluid milk market. Yet, the TCMPA had contracts with distributors regularly supplying about 85 percent of the market's fluid requirements, and the opportunity for new producers to enter the fluid milk market could be restricted effectively by an association policy not to extend membership to new applicants. Because of this possibility, the association's policy with respect to new members was expressed as a part of the agreement (but not the license) by providing that "all producers of fluid milk not members of the TCMPA who are selling milk in the Twin City sales area, and the marketing of whose milk is not prohibited by the health laws and ordinances applicable to the marketing of milk in said sales area, shall be permitted to become members of the TCMPA on an equal basis with existing members similarly situated." The protective clause meant little to outside producers, who might want to ship to the fluid market, as a practical matter, because of the limitation that it applied only to those producers "who are selling milk in the Twin City sales area."

Accounting Records. The original marketing agreement required all contracting distributors and producers to maintain such accounting systems as would provide a "true account and condition of their respective businesses," but the two licenses limited this requirement by applying it only to distributors. These records were to be made available to the Secretary of Agriculture or his representative to assist him in carrying out the purposes of the licenses. In order to protect dealers, however, the license required that information so obtained could be used only if combined and published in such a way that details concerning the operations of individual businesses were not disclosed. The milk market administrator was authorized to verify the data contained in the reports submitted to him by dealers in the course of his administration of the licenses; that was the way of insuring that farmers received the correct prices for their milk. This was a particularly important authorization in markets where farmers were paid on a multiple class basis (that is, one price for fluid milk, another for milk used for cream, etc.). The clause meant little to the Twin City market during the license era, however, because the market had but one price for milk whether used for fluid or manufacturing purposes--making it unnecessary for the Federal representative to audit milk distributors' accounting records.

Enforcement and Administration Provisions, Agreement-License No. 5. The agreement-license established no clear method of control or enforcement. This probably reflected the uncertainty that prevailed generally in regard to the legality of certain provisions, particularly the licensing procedure. Under these circumstances, the success of the agreement-license depended on a large measure of self control in the market. While the license part of the first milk regulatory program contained no specific provisions for an enforcement agent or agency other than the Secretary of Agriculture in his general role, the agreement between the contracting distributors and producers prescribed that those parties should "establish such agency or agencies as are necessary to (a) receive complaints as to violations by any contracting producer or contracting distributor . . ., (b) adjust disputes arising under this agreement between contracting producers and/or contracting distributors, (c) make findings of fact which may be published, (d) issue warnings to such persons, and (e) take such lawful measures as may be appropriate." They were further authorized to report their findings and actions to the Secretary of Agriculture for proceedings appropriate under the enabling act. The Field Investigation Section of the Agricultural Adjustment Administration, operating through a regional office in

Minneapolis, served the agreement-license through its power to investigate activities relating to the entire AAA program.

The parties to the original Twin City marketing agreement used the above authority to appoint a "Twin Cities Control Committee" for the purpose of administering the powers set forth in the Federal regulation. The control committee consisted of nine men from the Twin City market; three represented Minneapolis milk distributors, three represented St. Paul milk distributors, and three were representatives from the TCMPA. The committee was never called upon to perform any official duties, principally because (1) the original agreement-license contained detailed provisions governing nearly all aspects of the fluid milk market, and (2) it remained in effect for the short period of only 5½ months.

License No. 32. A new era of administration of enforcement was introduced into the Federal milk license program after February 16, 1934. Instead of granting local committees the power to administer the markets, the Secretary of Agriculture retained the local committees for advisory work and appointed a Federal representative to administer the licenses and act as his agent. Such representatives' salaries were to be paid by deductions from returns to producers.

Although the new Twin City license did not provide for the appointment of a milk market administrator because of the unique character of the regulation, his duties, in effect, were performed by the administrative officer in charge of the Field Investigation Section of the Agricultural Adjustment Administration. Under this arrangement, the expenses for administration and enforcement of the license were borne by congressional appropriations to the AAA rather than by assessments against producers or distributors in the market. In addition, the Twin City Control Committee, established under Agreement-License No. 5, was retained to serve as the advisory "Milk Industry Board" authorized by the new regulation.

Termination of the Agreements and Licenses. The agreement portion of the original milk regulatory program in the Twin Cities, (as drawn up by the major market interests and approved by the Secretary of Agriculture) could be terminated by two methods: (1) Whenever the President or Congress terminated the provisions of the AAA which authorized its establishment; (2) whenever the Secretary of Agriculture, for good cause shown, terminated the agreement as it applied to the market as a whole. The Secretary of Agriculture was empowered to terminate the licenses whenever he determined that their operation did not accomplish the purposes set out for them by Congress in the enabling act. He was further empowered to suspend or revoke a license as it applied to any individual distributor for violation of its terms or conditions.

The Twin City agreement also contained the proviso that the Secretary of Agriculture had to terminate the agreement whenever 75 percent of the contracting producers or of the contracting distributors (by volume) requested him to do so. The inclusion of this feature gave the

TCMPA a veto power over the entire agreement, since the cooperative's membership alone represented 100 percent of the contracting producers. In fact, the association's membership comprised more than 75 percent of the producers supplying the Twin City market, whether parties to the agreement or not. The section that provided for termination of the agreement did not appear in Licenses No. 5 and No. 32, but, in actual practice, the Secretary of Agriculture terminated the license for any market in which a majority of the producers did not favor its continuance. [4]

Operating Experience under Agreement-License No. 5 and License No. 32

The Minneapolis-St. Paul market had the distinction of being "regulated" for a longer time by the Federal milk license program than any other fluid milk market in the United States. The original regulatory program (Agreement-License No. 5) was accepted without dispute and, in contrast with the experience in most other markets, operated with a relatively high degree of success from nearly all viewpoints. The TCMPA, together with all the major distributors (who relied upon the association for nearly all of their fluid milk supplies), had just come through several years of unsettled market conditions and a severe milk price war earlier in the year. Market stability had been restored only after 5 months of ruinously low prices, and presumably even the small independent distributors were willing to abide by the many terms of the agreement-license.

Another reason for the favorable experience with Agreement-License No. 5 was that it was largely the handiwork of the TCMPA and the contracting distributors. In writing its provisions, they included only those price levels and marketing conditions considered profitable, yet economically sound and necessary and which, at the same time, were capable of being enforced. The basic attitude of the parties responsible for its drafting and approval, with regard to what they expected from the agreement, is expressed in a statement, written for members, in the TCMPA Bulletin of August 1933. It held that --

> . . . in formulating a code for the Twin City area we are determined that this code must set up a set of conditions which are basically sound so that if the marketing agreement is declared invalid by the courts or set aside in any way, it will not leave us in a position where we will be worse off than before. We are asking the aid of the Government in eliminating unfair practices and requiring a reasonable premium above the prevailing price for the actual work of producing milk.

The net effect of these provisions, however, was to make more secure the relative market positions of the TCMPA and the cooperating distributors, largely by eliminating the price advantages and competitive practices formerly enjoyed by certain Class C distributors. These dealers had been the disturbing elements in the local fluid milk market, and the marketing conditions were made stable by requiring them to follow the practices of the major market interests.

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[4] This practice became law with the passage of the Agricultural Marketing Agreement Act of 1937 (7 USC 608c (16) (b)).

There had been numerous violations of the first agreement-license during 1933 and 1934, but most of them were more from ignorance of the regulations than from deliberate intent. Informal pressures applied by the various market interests, including the labor union, soon brought compliance. The degree of compliance was noteworthy since the Department of Justice would probably have refused to sue violators either by civil or criminal action.

The power of the license and the ability of the major market interests to control the distributors who had been the disturbing elements gradually diminished between 1933 and 1943. The first serious weakening in the effectiveness of the milk agreement-license program in the Twin Cities from the standpoint of the distributors, came with the replacement of License No. 5 with License No. 32 in February 1934 and the resultant loss in authority to fix wholesale and retail prices for milk and cream. The first reaction of the market interests was to attempt to maintain the level of wholesale and retail prices by publicizing them as having governmental approval. At the same time, these interests discouraged dissemination of the minimum price provisions set forth in the license because of the fear that such prices would be interpreted by consumers as the "fair" prices for milk and cream.

Voluntary compliance with the producer price provisions of License No. 32 became less enthusiastic after that, particularly as stores and certain Class C distributors began to reduce retail prices below the prevailing market level. Personnel changes were made in the Minneapolis office of the Field Investigation Section of the AAA about this time, and the principal market interests employed the former Federal investigator to act as their representative in the market. His principal duty was to aid the new Federal representative in the actual investigation of reported violations of the license, and to obtain better compliance from participating distributors. The field investigation staff performed these duties in conjunction with their work on other aspects of the entire AAA program. The power and effectiveness of the license had diminished greatly by that time, however, and the local investigator had to administer the provisions of the license without the help of the legal force of the USDA.

Nearly all the distributors alleged to be in technical violation of the license during this period of legal uncertainties were those who paid producers the TCMPA blend price regardless of how small an amount of milk they had to process into manufactured dairy products. The USDA assisted somewhat in the enforcement of the license during this period by conducting audit surveys of all the cream purchases and the milk purchases of the Class C distributors. This procedure was employed as late as 1940. Although no legal action could be initiated from the facts disclosed by these audits, they served principally to remind the distributors that the USDA still played a quasi-active role in the pricing of producer milk and cream.

VI. FEDERAL REGULATION DURING WORLD WAR II AND UNTIL NOVEMBER 2, 1945

Beginning with the advent of the war and the emergency conditions of 1941-42, Federal regulations of a more positive and comprehensive nature superseded the rather ineffective license program. During this period, the Twin City fluid milk industry was subject to four types of simultaneously effective Federal regulations:

(1) Federal Milk License No. 32.

(2) OPA price controls on fluid milk and cream at the retail and wholesale levels.

(3) OPA price controls on raw milk at the producer level.

(4) War Food Administration Orders that restricted the sales and utilization of fluid milk and cream.

The last three-named regulations were integral parts of the Nation's regulatory policies necessitated by wartime pressures on food supply and prices, and they largely supplanted the functions of Federal Milk License No. 32. Each of these regulations is analyzed separately with respect to its influence on the local fluid market and on the future Federal milk order which in late 1945 became the mechanism for determining producers' milk prices.

Price Control at the Retail and Wholesale Level

In a major attempt to halt the inflationary pressures that had developed in the process of mobilizing the resources of the economy for World War II, the Price Administrator of the Emergency Price Control Act of 1942 established price ceilings on all the major "cost-of-living" items. This regulation was known as the General Maximum Price Regulation (GMPR), and was issued on April 28, 1942, to become effective May 18, 1942. The regulation "froze" the price that any retailer could charge for a product at the same level that he charged during the base period March 1 to 31, 1942. Supplementary regulations were issued to adjust any inequities. This regulation fixed the maximum prices for fresh (fluid) milk and cream sold in glass or paper containers in the Twin City market at 13 cents for the first quart of milk taken at one delivery and 12 cents for each extra quart taken at the same time. These maximum prices were modified for certain regions and cities by the promulgation of Supplementary Regulation No. 14 to the General Maximum Price Regulation as well as through amendments to the GMPR, but none of these affected the Twin City market.

The next step in the evolution of price controls was the promulgation on August 7, 1942, of Amendment No. 21 to the GMPR. The GMPR itself exempted the sales and deliveries of all milk products except fluid milk and cream sold at retail; the amendment brought wholesale sales of these items, when sold in glass or paper containers, under the same regulation. The original exemption of wholesale sales (to stores, hotels, etc.) from the price "freeze" was made in the belief that wartime shortages of tires, gasoline, and labor would tend to reduce home deliveries and thereby sufficiently increase competition among distributors for sales to stores to prevent price increases to such outlets. Distributors did increase their wholesale prices in many cities, however, even during a period of normally declining prices; in some cases, these advances were enough to absorb the full amount of the retailer's margin. To correct this situation, the Office of Price Administration (OPA) issued Amendment No. 21, which established ceiling prices for wholesale sales in glass or paper containers on the same basis as those promulgated earlier for retail sales, that is, at the highest prices charged during March 1942.

In the fall of 1942, price ceilings were extended to include "bulk" sales of fluid milk and cream to wholesale outlets. These bulk sales (sales other than those in glass or paper containers) were brought under regulation by Temporary Maximum Price Regulation (TMPR) No. 22 issued on October 3, 1942, and made effective 2 days later. The ceilings were continued in effect when that regulation was rewritten and repromulgated as Maximum Price Regulation (MPR) No. 280, but the controls were limited to sales to such wholesale outlets as stores, restaurants, hotels, and institutions. The week of September 28-October 2, 1942, was used as the base period. The regulation was amended several times to adjust ceiling prices (1) to compensate for the reduction in the butterfat content of fluid cream to 19 percent as stipulated by Conservation Order M-259, issued November 25, 1942, later reissued as War Food Order No. 13, and (2) to reestablish normal price relationships between cream distributed as fluid and that used in manufacturing butter.

Bulk sales of commercially separated cream and farm-separated cream continued to be exempt from price control during the entire period of actual hostilities of World War II, principally because price ceilings at the retail and wholesale levels for fluid cream and for manufactured dairy products, when combined with the use restriction imposed by applicable War Food Orders, had stabilized the prices for such bulk cream. However, the use restrictions on cream were lifted on September 1, 1945, with the termination of War Food Order No. 13, and the demand for and price of cream, particularly for manufacturing purposes, increased sharply. MPR No. 613 was made effective on June 17, 1946, and set the maximum price at the highest price charged by any seller during the base period May 1-15, 1946, subject to a lowest maximum of 62 cents per pound for butterfat and a highest maximum of 77 cents for the region which included Minnesota and Wisconsin.

Similar controls were placed upon the prices for bulk milk from producers for use in manufactured dairy products such as butter, cheese, and evaporated, condensed, or powdered milk. The maximum was set at the average price paid producers for such milk during November 1945 - a base period when uncontrolled manufacturing milk prices had not yet risen and were in reasonable adjustment with the prices for other dairy products.

These controls were short-lived, however; the entire price control program was terminated on June 30, 1946, or within 2 weeks after the latest orders were issued.

Price Control at the Producer Level

Prices paid producers for raw unprocessed milk destined for human consumption in fluid form were not subject to price controls until February 13, 1943, or about 1 year after similar controls were established on retail and wholesale sales of fluid milk by distributors. During the interim, the prices to producers for raw milk had continued to increase as a result of 3 principal factors: (1) Increased prices of manufactured dairy products that forced fluid milk distributors to increase their prices to producers in order to prevent the diversion of their raw milk supply to manufacturing outlets; (2) Increased demand for fluid milk, which encouraged distributors to bid competitively for milk supplies located beyond their normal production areas; and (3) The demand of organized producers for higher prices to help offset increases in production costs. As a reflection of these forces, higher minimum producer prices already had been established in about 26 fluid markets operating under Federal milk orders and in many areas under jurisdiction of State milk control boards.

These forces had increased producer prices to such an extent by early 1943 that the OPA was faced with numerous petitions from distributors for individual adjustments in retail and wholesale prices of fluid milk to help offset the "squeeze" on their operating margins. In an effort to halt these pressures for continued price increases and thereby retain the prevailing retail price structure, the OPA established ceiling prices for milk at the producer level at the highest prices paid by such purchasers for milk received during January 1943. These maximum producer prices applied only to raw unprocessed milk in bulk that was for ultimate human consumption in fluid form; it did not affect bulk milk sold by producers for manufacturing purposes. This regulation was promulgated as MPR No. 329, and was made effective on February 13, 1943.

An important provision of this regulation, at least from the standpoint of future developments in the Twin City market, was the proviso that the maximum price to producers in markets regulated by Federal milk marketing orders be the price paid during the base period of January 1943, "or the minimum producers' price established under the provisions of the Agricultural Marketing Agreement Act of 1937, as amended, whichever is higher."[5] This provision permitted a measure of exemption from OPA price ceilings on producers' prices, and was the method by which a price increase was accorded producers in the Minneapolis-St. Paul marketing area (with the promulgation of Federal Milk Order No. 73 in 1945).

The regulation also authorized the regional offices of the OPA to adjust maximum producers' prices within their areas if such action was necessary to prevent an existing or threatened local shortage of milk, or

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5/ Section 1351.402, MPR No. 329, of February 13, 1943.

to increase producers' prices whenever the distributors' margins were adequate enough to absorb the increase without altering the retail levels established under the Emergency Price Control Act. Amendment No. 13 to the MPR No. 329 clarified the definition of a "producer" so that farmers' cooperatives would be exempt from the ceiling prices in receiving milk from farmer members into plants owned by the cooperative, but would be subject to the regulation whenever the cooperative served as a marketing agent for producers who made direct deliveries to distributors.

The data in table 4 indicate the actual ceiling prices that prevailed in the Twin City market during the period from January 1943 until November 1945 -- the period when producer prices were set by OPA authorities. Twin City distributors paid TCMPA $3 a hundredweight for 3.5 percent milk in January 1943, and this price was established as the local maximum by the provisions of MPR No. 329. At the same time, the rate for the butterfat differential was set at 5½ cents for each one-tenth of a pound of butterfat that the producers' milk varied from the 3½-percent standard.

The regulation had been in effect less than 4 months when it became apparent that the price for January 1943 was not a sound basis for establishing a flat price for a complete year. Immediately thereafter, the TCMPA petitioned the regional office of the OPA for an adjustment in producer prices to correct two major faults of the regulation. One of the inequities of the original ceiling price was that it permitted producers to receive a higher price for milk diverted to manufacturing plants than for milk retained in the market and sold to distributors; the other was the failure to provide ceiling prices that would reflect historical seasonal variations in price at the producer level. The regional office of the OPA sought to correct this situation by promulgating new ceiling prices that would reflect higher producer prices with appropriate seasonal variations. These prices were the same as those that actually prevailed in the market, as shown in table 4, from July 1943 through December 1944, and represented an average yearly increase of slightly more than 11 cents a hundredweight.

More than 3 years elapsed between the time when price ceilings were put on sales of producer milk to distributors and the time they were put on sales of producer milk to manufacturing plants. During this period the premium for fluid milk over manufacturing milk prices narrowed. In 1944, the disparity in prices being paid by the two types of outlets had widened enough that it again became more profitable for producers to divert milk to nearby creameries than to continue selling to Twin City distributors. In an attempt to halt this diversion away from the Twin City market, the TCMPA formally petitioned the Chicago regional office of the OPA for a modification of the maximum prices established by Order G-9 to MPR No. 329. By late fall 1944, the manufacturing plants were able to pay prices for milk that actually exceeded the maximum prices established for milk sold to distributors. The OPA acted to relieve the threatened shortage of the local milk supply by granting a price increase of 7 cents a hundredweight for the month of January 1945 only. After a survey of the situation was completed in January, the regional office of the OPA, with the approval of the War Food Administration representative of the Midwest, established a new schedule of maximum prices for producer sales to distributors that more

Table 4.--Prices for 3.5 percent milk delivered to distributors by Twin City Milk Producers Association, as established by specified OPA directives, by months, February 1943-November 1945

Month	1943	1944	1945
	Dollars	Dollars	Dollars
January		3.05	3/ 3.12
February . . .	1/ 3.00	3.05	4/ 3.08
March	3.00	3.05	3.08
April	3.00	3.05	3.05
May	3.00	3.05	3.05
June	3.00	3.05	3.05
July	2/ 3.18	3.18	3.18
August	3.18	3.18	3.18
September . . .	3.25	3.25	3.25
October	3.25	3.25	3.25
November . . .	3.18	3.18	5/ 3.18
December . . .	3.12	3.12	
Butterfat differential for each 1/10 of a pound of butterfat	2/ .055	.055	.055

1/ MPR No. 329, effective February 13, 1943.

2/ Order G-9 under MPR No. 329, effective July 1, 1943.

3/ Amendment No. 1 to Order G-9, issued December 31, 1944, effective January 1, 1945. (It raised the price 7 cents for January 1945 only.)

4/ Amendment No. 2 to Order G-9, issued January 31, 1945, effective February 1, 1945. (It raised the price 3 cents for February and March, 1945 only.)

5/ Pricing provision of Order No. 73, effective November 3, supplanted OPA price.

nearly restored the normal differentials between the two major types of outlets. This was accomplished by retaining the 7-cent increase for January and granting a 3-cent-a-hundredweight increase for February and March.

The largely unsuccessful attempts by the TCMPA to get from the OPA an adjustment in producer prices during 1944 caused the association to consider alternative means of obtaining such adjustments. The wartime changes in the interstate movement of milk and milk products, coupled with recent court decisions that interpreted more broadly the interstate commerce clause of the United States Constitution, had already removed the only deterrent to promulgating a Federal milk order for the Twin City area.

The association began to consider such an order as early as 1944. Although the OPA refused or failed to grant producers substantial relief for 1945 through its own directives, correspondence on file in the U. S. Department of Agriculture indicates that during this period, the OPA would not oppose the promulgation of a Federal milk order in the Twin Cities that would provide an approximate yearly average price increase of 9 cents a hundredweight over its ceiling prices. Acting on this information, the TCMPA, in early 1945, instituted the actions necessary to obtain such a Federal marketing agreement and order, particularly after it became apparent that such increases could be granted without increasing the retail and wholesale prices of fluid milk in the Twin Cities. An order was actually promulgated on November 3, 1945, and after that time the producer prices for milk sold to Twin City distributors were determined by the pricing formulas in the order rather than by the original OPA price ceilings. The price controls established under MPR No. 329, however, continued to remain in effect in those markets not under Federal milk orders until the entire price control and subsidy program of the Federal Government was terminated on June 30, 1946.

Allocation and Control of Fluid Milk and Cream Sales

As has just been pointed out, the normal system of permitting the pricing mechanism of the markets to allocate the supply of milk, cream, and manufactured dairy products among users was superseded by extensive controls over the prices of such commodities in 1942 and early 1943. During this same period, the demands for manufactured dairy products, such as butter, cheese, and evaporated milk, had increased so that rationing had to be imposed at the consumer level; the remaining production was allocated, by Food Distribution Orders, to the uses considered most important to the war effort. The various Food Distribution Orders 6/ were not issued simultaneously, but were promulgated as the need for remedial action became apparent. Fluid milk and cream sales were left uncontrolled until after nearly all other products were under controls of one type or another, and this delay began to be felt throughout the entire war dairy program as early as the spring of 1943.

6/ Food Distribution Orders were designated War Food Orders in April 1944.

Total milk production had reached an all-time high of 119 billion pounds in 1942, as compared with 101 billion pounds in 1935 and a 10-year (1932-41) average production of 105 billion pounds. This high level of milk production was being sustained in 1943; yet the sharp increase in consumer incomes, coupled with the shortage of manufactured dairy products and the establishing of price controls, caused a Nation-wide diversion of most of this increased milk supply into fluid channels. Officials of the War Food Administration estimated that in September 1943, fluid milk and cream consumption was 20 percent above the 1941 level, 10 to 12 percent above the 1942 level, and was still increasing at the rate of 1 percent a month. Wartime demands at home and abroad had greatly expanded the need for such manufactured dairy products as evaporated milk, butter, cheese, and dried milk, hence any further increases in the consumption of fluid milk, and particularly cream, with a resultant diversion of milk from manufactured products to fluid uses, were considered undesirable developments.

The problem was met by the promulgation of Food Distribution Order (FDO) No. 79 on September 7, 1943. This order established sales quotas for fluid milk, cream, and fluid milk products at the distributor level, and was issued in the hope that rationing at the dealer level would allocate over-all milk production to essential uses without recourse to the extremely complex alternative of rationing fluid milk to the ultimate consumer. The order used June 1943 as a base period, and in general provided that milk distributors in the regulated markets could continue to sell each month only as much milk and only three-fourths as much cream as they sold in the base period. Sales to Government agencies or to the armed forces were exempted from the quota, and from time to time extra quantities were allowed schools in the marketing area. The objective of the order was to limit fluid milk sales to the approximate levels current at that time and to reduce the sales of cream and such fluid milk byproducts as skim milk, flavored milk, buttermilk, and cottage cheese to lower levels -- levels variable with individual areas and subject to revision as changing conditions necessitated. The order itself did not fix the quota percentages or establish the sales area applicable to each market; that was done by the issuance of supplemental orders applicable to a particular market. The order, together with its supplements, was applied in 136 fluid milk markets throughout the United States between October 4, 1943, and March 1, 1944, the date on which the last order was promulgated.

These national policies embodied in FDO No. 79 were specifically applied to the Twin City market by supplemental FDO No. 79-45, which became effective October 22, 1943. The marketing area defined and regulated by FDO No. 79-45 included all the areas now under regulation by Milk Order No. 73, but included, in addition, the cities of Anoka and Stillwater and the townships of Anoka, New Hope, Bay Town, Lincoln, and Stillwater.

The local order was administered by the same agent who had administered Federal Milk License No. 32 since March 6, 1934. The expenses of his office were paid from monies collected through an assessment against each milk handler who operated within the specified marketing area; this assessment was set at 1 cent for each hundredweight of milk, cream, skim milk, buttermilk, flavored milk drinks, milk beverages, and the skim milk equivalent of cottage, pot, or baker's cheese sold during the month and subject to the quota. The market agent received monthly reports on the volume of sales of the regulated handlers and audited the records of such distributors to verify that the reports were accurate and that the quotas were being observed.

VII. FEDERAL REGULATION BY MILK ORDERS, 1945-50

Milk Marketing Agreement and Order No. 73

Promulgation of the Regulation

The TCMPA began to work actively in 1944 to have a Federal milk order applied to the Minneapolis-St. Paul market. Indications are that this decision to obtain a milk pricing order was based on several factors, as follows:

(1) An extreme dissatisfaction with the failure of the OPA to increase the ceiling price for producer milk (see discussion in chapter VI). The TCMPA knew that the Federal milk order program provided an alternative to OPA price ceilings, and its contracting distributors supported a plan to use a Federal milk order as a means of adjusting producer prices for fluid milk to a level commensurate with their historical relationship to the value of manufacturing milk.

(2) A realization that the supply of whole milk marketed in the production area had increased greatly under wartime demands. A part of this increase in whole milk marketings was an actual increase in production, but a major part of it was the result of a definite shift by producers toward marketing current production as whole milk instead of as cream. The feeling was that when the wartime demand for dairy products and for fluid milk exports to Army camps declined, the new shippers of whole milk would seek a share of the Twin City fluid market as a more profitable outlet rather than revert to supplying contiguous manufacturing plants with cream.

(3) A notification that the U. S. Department of Agriculture intended to cancel the Federal milk license that had been the basis for Federal regulation of the pricing of producer milk since 1934, and

(4) An assurance that the Twin City market easily could meet the requirements for classification as an interstate market. The court decisions on the legality of the Agricultural Marketing Agreement Act of 1937, as amended, and other laws had broadened the interpretation of the interstate commerce clause in the United States Constitution, and this fact removed the barrier that heretofore had prevented the association from obtaining a Federal milk order.

The association forwarded to the War Food Administrator in January 1945, a proposed marketing agreement and order designed to provide an average price increase to producers of 8 cents a hundredweight over the OPA ceiling price, and requested him to schedule a public hearing as soon as practicable. In accordance with the established procedure of the U. S. Department of Agriculture, all other milk handlers in the market were furnished copies of this proposed order, and were asked to submit additional or alternative proposals of their own. None was submitted, however, and a public hearing was held at St. Paul, Minn., from May 22 to 28, 1945.

None of the distributors located in the Twin Cities nor any representatives of consumer interests participated in the public hearing. The major part of the evidence in the hearing record was submitted by Twin City Milk Producers Association, although two dealers with plants located outside of the Twin City marketing area testified against several important provisions of the proposed marketing agreement and order at the public hearing and submitted legal briefs and exceptions to the tentatively approved marketing agreement.

The major issues discussed at the hearing concerned: (1) The need for Federal regulation, (2) the interstate character of the market, (3) the extent of the marketing area, (4) the classification plan to be employed, (5) the level of the class prices for milk and the method of determining those prices, (6) the type of pooling plan for distributing returns to producers, and (7) the need for the performance of marketing services. Most of the testimony on these issues was favorable to the issuance of an agreement and order except for a considerable controversy between TCMPA and the outlying handlers over (1) the classification and pricing of fluid milk that was sold to users beyond 100 miles of the local marketing area, and (2) the method for calculating the "location differential" that affected the price these handlers would be required to pay producers.

A recommended marketing agreement and order were drawn up by the USDA and announced publicly on August 14, 1945. The TCMPA took vigorous exception to a decision on pricing Class I milk, and the two outlying dealers objected to the decision that a need existed for the Federal regulation and to the decisions on the classification and pricing of milk. As a result of these objections the provisions relating to the pricing of Class I milk and to the method of calculating a uniform handler price to producers were changed and a final milk marketing agreement and order was tentatively approved and issued by the Secretary of Agriculture on September 25, 1945.

During the period between the issuance of the recommended and the final agreement and order, the USDA had received the written approval of the Administrator of the OPA to include in the regulation Class I pricing provisions that increased the producers' price for milk sold distributors by an average of 8 cents a hundredweight over the average for the 1945 fiscal year. The correspondence on this subject indicates that this increase in producers' price was granted because distributors in the market had agreed to absorb this increase in milk costs without requesting an increase in the OPA ceiling price on their wholesale and retail sales.

The tentatively approved marketing agreement was submitted to all distributors in the marketing area, but none signed it. The legal requirements for the issuance of an agreement were met, however, when the TCMPA signed it as a "handler," a situation made possible by the definition contained in the agreement that made TCMPA a handler of more than 85 percent of the volume of milk in the market. The provisions of this agreement were made binding upon all distributors in the Twin City market, however, by the issuance of a Federal milk order that contained provisions identical with those of the agreement approved by TCMPA. This order was issued by the Secretary of Agriculture on October 30, 1945, (without resort to a producers' referendum of approval) after it had been established that the Twin City Milk Producers Association, representing 82 percent of the volume of fluid milk supplied the market in July 1945, and the Delano Cooperative Creamery, representing 2.6 percent of the volume of fluid milk supplied the market in July 1945, approved in identical terms the issuance of the order. The milk marketing agreement and order was known as No. 73, and became effective November 3, 1945.

Some difficulty was experienced in applying the pricing and pooling provisions of the order in its first 3 months of operation, particularly those that applied to a handler who received both inspected and uninspected milk and to handlers who sold milk outside the local marketing area. The TCMPA and one handler gave consideration during this period to amending the order; however, in the hope that if the order remained in operation for a longer time many of the problems might resolve themselves without the need for amendment, no action was taken.

Provisions of Federal Milk Marketing Agreement and Order No. 73

The original Agreement and Order No. 73, which became effective November 3, 1945, were of the same general type as agreements and orders that had been promulgated by the Secretary of Agriculture since 1936. The following section gives a resume' of the important provisions of the regulation as it first became effective, together with a synopsis of the issues that developed at the first public hearing.

Definitions

A "handler" (distributor) was defined as any person, or milk producers' cooperative association, disposing of Class I milk products in the "marketing area."

The "marketing area" in which all handlers were regulated by the order was fixed to include the rectangularly shaped area shown in figure 1. This area included the cities of Minneapolis, St. Paul, Robbinsdale, Wayzata, Columbia Heights, White Bear, West St. Paul, South St. Paul, and 23 contiguous townships located in Hennepin, Anoka, Ramsey, Washington, and Dakota Counties. This marketing area was smaller than that originally proposed when the public hearing was called; it was concluded that the smaller area represented a naturally well-knit and more closely interrelated market for purposes of regulation.

A "producer" included any dairy farmer or person, or milk producers' cooperative association, from whom the above handlers received any of their milk supplies, unless such shipments were received only during an emergency period. Plants that shipped milk into the area only during the period from July to December, bona-fide producer-handlers, and handlers whose only source of supply was other handlers, were exempted from the pricing and auditing provisions of the agreement and order.

Classification of Milk

The regulation provided for but two classes of milk:

(1) Class I, which included that sold as milk, cream, skim milk, any mixtures of milk and cream, cultured buttermilk, flavored milk drinks, and any skim milk or butterfat not accounted for as Class II milk, and

(2) Class II, which included that used for any dairy product not classified as Class I, plus actual plant shrinkage and loss not in excess of 1 percent of all milk received from producers.

Other Provisions

Other classification provisions required:

(1) That milk, skim milk, and cream sold by one handler to another were to be classified as Class I products unless a statement signed by both buyer and seller indicated that it was used in manufacturing a Class II product.

(2) That any sales to a nonhandler (those not in the Twin City fluid market) would be classified:

(a) According to actual usage if such nonhandler plant was within a radius of 100 miles of the marketing area, or

(b) As Class I if sold in the form of milk or skim milk and as Class II if sold in the form of cream, if such nonhandler plant was more than 100 miles from the marketing area.

(3) That any skim milk or butterfat imported during the period from July through November from an emergency source (producers not regularly supplying the local market or from producers in other production areas) must be classified in the lowest use (and price) classification possible; this was designed to "protect the regular suppliers" of the market and at the same time to permit milk importations during periods of short supply.

The handlers of any milk had to maintain such records and make such reports as would prove to the market administrator how the milk actually was used.

These classification provisions were introduced and supported by the TCMPA, and all were acceptable to the distributors present, except for the requirement that milk (but not cream) sold to users beyond 100 miles of the marketing area be priced as Class I. The representatives of outlying distributors who sold milk under these conditions objected vigorously to its classification as Class I. Their contention was that to force them to pay Class I prices for all milk purchases whether sold as fluid milk within or outside of the marketing area would force them to give up one market or the other; and since the outside market constituted a larger outlet, they would be forced from the local market, thus leaving it entirely to the established distributors and the TCMPA. The clause was put into the order, however, on the basis that the hearing record did not establish a valid basis for the differentiation.

Minimum Prices for Producer Milk

The formulas in the Twin City order for determining the minimum prices for milk and cream were based on the prices of manufactured dairy products. The formula for Class II prices set the minimum price at nearly the same level as farmers would have received if the milk had been sold through nearby creameries and condenseries without the benefit of the higher prices in the fluid market. This price was based on the market prices for butter and nonfat dry milk solids -- the principal products manufactured in the supply area -- and was determined by the following "butter-powder" formula:

(1) Multiply by 3.5 the average monthly wholesale price per pound of 93-score butter at New York, and add 20 percent to that figure.

(2) Multiply by 7.7 the average monthly price of spray and roller process nonfat dry milk solids for human consumption.

(3) Add the two amounts together, and subtract 42 cents.

Handlers were required to pay this "butter-powder" formula price for all milk used in Class II products.

All milk used for the fluid purposes specified as Class I products brought a higher price to the producer; this price was set by a formula that reflected a premium over the value of milk for manufacturing (Class II) purposes. Under this Class I formula, the market administrator first determined a "basic" price for such milk by choosing the highest price that results from any one of the following three formulas:

(1) The "butter-powder" formula used for pricing Class II milk; or

(2) A "condensery pay-price" formula, which is an average of the prices paid for 3.5 percent milk by 18 condenseries throughout Wisconsin and Michigan and owned by four different nationally known proprietary companies; or

(3) A "butter-cheese" formula, which was designed to reflect the average value of milk if it were used for the manufacturing of butter and cheese.

The market administrator added a seasonal price differential to the "basic" price, and the total of these two became the legal minimum price for Class I milk and milk products. This extra price differential varied with the different seasons of the year to encourage farmers to produce more milk in the seasonally short months and correspondingly less in the seasonally flush months. It also is the part of the formula that is administratively changed most frequently to reflect higher or lower prices to producers. In the original Twin City order, this Class I and seasonal price premium totaled:

(a) 50 cents a hundredweight from January through April.

(b) 40 cents a hundredweight during May and June.

(c) 70 cents a hundredweight from July through December.

The market administrator was required to calculate and announce publicly the price of Class I and Class II milk and the amount of the butterfat differentials within 6 days after the end of each month.

Location Differentials

A location differential was applied to Class I milk, and handlers were permitted to reduce the paying price to farmers by ½ cent for each full mile (based on the shortest highway distance) that their plants were located from the edge of the Minneapolis-St. Paul marketing area. This lowering of the producer price was an adjustment for the transportation expenses saved by farmers who supplied the outlying plants and the resultant increase in transportation expenses incurred by operators of such outlying plants in bringing their packaged milk products into the metropolitan (consuming) area.

The TCMPA had proposed this location differential, and it was accepted by the USDA in spite of vigorous protests from the same group of outlying handlers that the deduction should apply from the outlying plants to the distribution point within the area. However, the latter proposal would have increased the differential enough to give outlying plants a distinct competitive advantage over handlers whose plants were within the marketing area, so the TCMPA proposal was incorporated into the order.

Payments to Producers

The Twin City order also provided for an individual-handler pool, with each handler's price to his producers based on the utilization of all the milk in all the plants operated by the handler. The tentative order recommended by the USDA provided for a uniform price for each plant of each handler, but this was changed in the final order to meet TCMPA objections. The decision to recommend an individual handler was based on testimony that such a pool was better adapted to the market than a market-wide pool. It also was felt that fewer administrative problems would arise if the individual-handler pool were used. The TCMPA asked for this type of pooling arrangement in the proposals upon which the public hearing was based, and testified in favor of the individual-handler pool at the hearing. The association pointed out that an unusually diversified group of plants operated in the area. At some of these plants only Class I products were purchased; but other plants ranged in type from those that purchased only Class I products to manufacturing plants from which only small portions of cream or milk entered the marketing area for fluid consumption. These plants historically had determined separate prices based on their own pools, and it was felt that this custom should be allowed to continue. Also, many handlers were supplied by cooperative associations which in turn pooled and blended the prices received from a number of distributors; it was held that the individual-handler pool was better adapted to their operations. No testimony was offered against the individual-handler pool nor in favor of a marketwide pool.

It was pointed out in the recommended decision that in defining a producer no distinction had been made between those who had qualified with the health departments and those who had not. Since most of the producers who had qualified with the health departments shipped their milk to handlers whose predominant business was the distribution of fluid milk and cream, it was felt that the higher utilization value of such handlers would give qualified producers a higher return than that received by the producer on the market not qualified with the health department. Such a procedure would have the effect of inducing producers to meet the health requirements of the cities concerned. In the case of a handler who was required by a health authority to separate producers into two groups and to receive and handle separately the milk of each such group, the order further provided that a uniform price could be computed for each group.

The market administrator was required to calculate and announce publicly the amount of the uniform paying price of each handler, after allowance for butterfat and location differentials, within 15 days after the end of each month. The handler was then required to pay his individual producers this uniform price, adjusted for individual butterfat differentials, within 20 days after the end of each month. In cases in which the producers were members of cooperatives, the handlers were required to pay the cooperatives twice a month for all milk received directly from its members as well as for the milk received after it had been first delivered to an association plant. The cooperative, in turn, paid its own blended price to all its member-producers, based on total receipts from sales of fluid milk and manufactured dairy products.

Other Provisions

The costs of administering the order were borne by a 2-cent assessment against each handler (except TCMPA) for each hundredweight of milk and cream received from producers, or cooperative associations of producers, and subsequently disposed of as Class I milk during any month. This provision further required that proprietary handlers pay the assessment on all Class I milk purchased from the TCMPA, even though the association was by definition a "handler" of such Class I milk. The local market administrator was empowered to determine a lesser rate of assessment, subject to the review of the Secretary of Agriculture, if it would return enough money to pay the cost of administering the provisions of the order. An additional sum of 2 cents a hundredweight was assessed against noncooperative member producers to permit the market administrator to verify weights, samples, and tests of milk shipped by them to handlers, and to provide such producers with market information.

The USDA inserted a provision in the order that was not discussed at the public hearing, but which empowered the Secretary of Agriculture to freeze the Class I price whenever the public interest required. This provision was also designed to protect handlers (who were still subject to OPA resale price ceilings) from being unduly "squeezed" by a sudden increase in the prices of manufactured dairy products.

Suspension of a Pricing Provision of the Order, June 1946

Because of an abnormally heavy demand for dairy products in the spring of 1946, and the resultant prices received for them, the many dairy manufacturing plants contiguous to the fluid market were able to pay a price for manufacturing milk nearly as high as the Federal order specified for fluid milk.

The TCMPA indicated that producers began to divert fluid supplies to manufacturing plants after the order reduced Class I prices seasonally in May 1946. Because of this shift, the association requested the Secretary of Agriculture to stop the diversion by forestalling the seasonal decline in Class I milk prices then required by the order. This was accomplished by suspending the part of the order that reduced the seasonal differential by 10 cents a hundredweight for the month of June 1946.

Federal Milk Order No. 73 as Amended in 1948

Promulgation of the Regulation

The original Twin City marketing agreement and order remained unchanged until December 23, 1948, except for the suspension of the seasonal price change for the month of June 1946. By early 1948 the regulation had been in effect for more than 2 years, and nearly all the market interests had certain changes they wanted made in its provisions. At the same time, the market administrator had encountered some problems of classification with respect to cream and its products, and was in favor of having the issues clarified by amendments to the regulation.

The TCMPA took the initiative by submitting to the USDA in April 1948, a list of proposed changes, and requested the Department to conduct a public hearing at St. Paul, Minn., to consider those and other proposals for amending the regulation. The association's proposals were designed to provide a Class I price that would average about 15 cents a hundredweight over the existing formula. The price increase would be effected by using more favorable conversion factors for nonfat dry milk solids when calculating the basic Class II price; by increasing from 20 to 22 percent the overrun allowance in calculating handlers' butterfat differentials from butter price quotations; and by increasing the seasonal differential of Class I above the "basic price" (manufactured product prices) by 10 cents for each hundred pounds during May and June and by 25 cents a hundred from July through December.

Twin City handlers were notified of the producers' proposals and asked to submit any changes they would like to have considered at the public hearing. Four handlers responded with proposals to increase the rate and mileage applicable to location differentials, to change the classification of cultured buttermilk, to change the formula for calculating the Class II price, and to clarify certain minor provisions. At the same time the Dairy Branch, PMA, submitted 22 proposals designed to clarify the intent of certain provisions of the order and thus to facilitate its administration. The Dairy Branch by this time had gained an accumulated experience in administering milk orders, and had suggested many minor changes designed to avoid the administrative and enforcement difficulties that had been encountered in other markets subject to Federal regulation.

Producers based their request for a hearing and for increased prices on the facts that milk production was declining in the Twin City milkshed, and that handlers simultaneously were experiencing increased competition from an adjacent market (Chicago) for available milk supplies.

The public hearing was held in St. Paul on May 10 and continued in Minneapolis on May 11 and 12, 1948. In contrast to the 1945 experience, Twin City distributors took an active part in presenting evidence at the public hearing in support of their own proposals, and, in some cases, in opposition to the stand of their supplying producers as represented by the TCMPA.

The recommended decision of the Assistant Administrator for Marketing, PMA, was announced on August 2, 1948, and the Secretary of Agriculture issued his final decision on November 9, 1948. No handlers signed the revised marketing agreement. However, a revised Federal order was signed by the Secretary on December 23, 1948, after five cooperative associations in the market, representing more than 90 percent of the producers in number and in volume of milk, approved it. On the basis of this action, Federal Milk Order No. 73, as amended in 1948, became effective on February 1, 1949.

Issues Developed at the Second Public Hearing

The amended order of 1948 contained several important changes affecting the Twin City market:

(1) It increased the producers' price for Class I milk by increasing the seasonal Class I differential by 10 cents a hundredweight during May and June and by 30 cents a hundredweight during August to November, inclusive.

The USDA's amended order conformed to the request of the TCMPA for a higher level of Class I prices, but provided a system of seasonal Class I differentials different from that proposed by the association. Table 5 indicates these differences.

The Department denied the price increases for July and December, but recommended a larger differential from August through November in the hope that the great seasonality in prices would encourage producers to shift their production patterns to conform more closely to the consumption pattern of the market.

Table 5.-- Seasonal differentials for Class I milk as specified in the Federal Milk Agreement and Order No. 73 of 1945, as proposed by the TCMPA in 1948, and as promulgated in Order No. 73, as amended in 1948

Month	1945-48 version: Agreement and Order No. 73	TCMPA proposal	1948-50 version, Order No. 73
	Cents per hundredweight	Cents per hundredweight	Cents per hundredweight
January-April . .	0.50	0.50	0.50
May and June . .	.40	.50	.50
July	.70	.95	.70
August-November .	.70	.95	1.00
December	.70	.95	.70

The TCMPA presented data at the public hearing that indicated a decline in the number of producers supplying the market and a sizable decrease in the amount of producer milk shipped between 1947 and 1948. The principal argument was that the prices for milk in the Twin Cities were not sufficiently attractive to hold producers and thus insure an adequate supply of wholesome milk for the market. Four major Twin City distributors and the Minneapolis Milk Dealers Association opposed the major intent of the price increase proposal. These parties opposed any increased Class I seasonal differential, and agreed that if such increases were granted, they should be temporary in nature and restricted to the months of short supply.

(2) The amendment revised the classification plan to specifically include natural buttermilk, eggnog, aerated cream, ready whipped cream, and mixtures for toppings and uses similar to those of whipped cream, as Class I products. Skim milk disposed of as animal feed was classified as Class II, and shrinkage and plant loss were to be prorated between Class I and Class II in a more equitable manner.

Probably the bitterest controversy of the entire hearing and the order-promulgation period arose in regard to the proposal of the Dairy Branch, PMA, to classify eggnog, aerated cream, instant whip, ready-whipped cream, mixes for topping and similar products as Class I usage. The 1945 order did not mention these products specifically, and a question had arisen in the market as to whether or not they could properly be classified as Class I. The testimony of the representative of the Dairy Branch (supported by the testimony of a handler) favored classifying aerated cream and the various types of ready whipped cream in the same class as cream, which was Class I. Substantially, their position was that cream whipped by gas was in direct competition with cream whipped by mechanical means, and therefore should be paid for in the same use classification. These groups were vigorously opposed by one handler in the market who manufactured and sold a trade product of this kind under a registered trade name.

The final decision was to classify the products mentioned in the previous paragraph as Class I products, although the language of the order was changed to eliminate all reference to the registered trade name. One handler also proposed to exempt from the provisions of the order all cultured buttermilk made from natural buttermilk, but others protested. The issue was resolved by classifying all buttermilk as a Class I product.

(3) The amendment also increased the rate and changed the mileage provisions applicable to the location differentials for both handlers and producers.

In an effort to correct inequities against certain outlying handlers that had resulted from the provisions of the 1945 agreement and order, two distributors with plants outside of the marketing area, proposed changes in the rate and method of calculating the location differentials. The boundary of the marketing area is quite irregular, and under the original plan two plants at an equal distance from a central point in the Twin Cities had different total allowances, with consequent effects upon their relative competitive advantages. All the testimony at the hearing was in favor of increasing the rate, and no opposition developed to the proposal to designate a central point in the market for use in calculating the mileage involved, rather than use the edge of the marketing area as specified in the 1945 order. The Minnesota Transfer Viaduct over University Avenue in St. Paul was then designated as the center of the Twin City marketing area, and handlers were authorized to deduct 1 cent (instead of ½ cent) a hundredweight for each mile of distance (over the shortest highway route) from their receiving plants to the edge of a circle having a 15-mile radius from that market center.

(4) The amendment revised the definitions to make the marketing area include the township of St. Anthony and to restrict the definition of a "handler" in such a way that the TCMPA was considered a handler only with respect to the milk it received at its plants. Although the township of St. Anthony was added to the marketing area, the size of the area was not changed. It was actually a part of the marketing area defined under the 1945 order since it is completely surrounded by other

townships that were within the defined area, although its name was inadvertently omitted earlier.

Under the new definition of a "handler," a cooperative association was a handler only of that milk that had been produced by its members and delivered to an association-operated plant. This meant that the TCMPA no longer would be considered a handler of about 85-90 percent of the milk supplied the market, since most of its milk used for fluid purposes is shipped directly to distributors' plants. The change in the status of TCMPA necessitated a change in the date and method for computing payments to cooperative associations for milk shipped directly to handlers' plants.

A minor change in another section described the market administrator's powers as the same four specified in the act, with the result that the function of preparing and disseminating information was rightfully listed as a duty rather than as a power. The "emergency" period during which a regulated plant could purchase milk from nonregulated plants without bringing the latter within the jurisdiction of the order was reduced from a 5-month to a 4-month period. Other changes in terminology and procedure were made to eliminate legal objection or criticisms and to bring the local order into conformity with the terms of those employed in the milk orders regulating other fluid markets.

The TCMPA objected vigorously to the restricted definition of a handler because that, in turn, was the basis upon which changes were made in other provisions of the order affecting the dates of payment and the prices to be used by proprietary handlers in paying the TCMPA for the milk shipments of its members. Two handlers objected to the new definitions of a pool plant and to the reduction of the emergency period to 4 months, but the proposal in the order was acceptable to the other distributors and to the producer organizations, and it was retained.

(5) The general administrative provisions were rewritten to permit easier administration of the regulation. In fact, so many amendments and changes were incorporated into the 1948 amended version of the order that it was substantially rewritten to clarify the language and at the same time to make it conform more closely with the requirements of the enabling act. Proposals for a processing charge on interhandler transfers, a quality differential, a revision in the butterfat differentials, and a change in basis for calculating Class II prices were considered at the public hearings, but were denied by the USDA because the evidence in the hearing record did not provide a sufficient basis for such changes.

The issues developed at the public hearing, as just described, were resolved by the Dairy Branch and presented in a recommended decision and tentative order issued on August 2, 1948. The Twin City fluid milk industry was invited to submit written exceptions to any provisions of the tentative order that they deemed objectionable. Exceptions were filed by (1) the Minneapolis Milk Dealers Association in conjunction with the St. Paul Milk Company, the Sanitary Farm Dairies, and the Minnesota Milk Company; (2) Aerated Products Company of Minnesota; (3) Dutch Mill Dairy; (4) Oak Grove

Dairy; and (5) the Twin City Milk Producers Association. TCMPA's objections were against the provision governing the method and dates of payment for milk necessitated by the new definitions of a handler, whereas handlers' objections were against any increase in Class I prices, the use of 93-score butter in the New York market as basis for price determination, the reduction in the "emergency period" for milk importation from 5 to 4 months, the new definition of a pool plant, and the inclusion of aerated cream and related products in Class I. Only one change was made in the amended order before it became final, however, and that was to eliminate "icings" from the list of milk products that were classified as Class I.

Federal Milk Order No. 73, as Amended in 1950

The prices of dairy products "broke" shortly after the 1948 hearing but before issuance of the new order, and the new differentials of $1 per hundredweight for Class I milk from August through November incorporated into the Twin City order, soon encouraged outlying producer groups to attempt to obtain a share of the local fluid market. The higher Class I prices had upset the normal price relationships with the Chicago market. As a result several cooperative associations of producers in Wisconsin, and regularly supplying a part of the Chicago market, made preliminary efforts to qualify for shipment to the Twin Cities. In some cases actual shipments of milk were made in tank trucks to local handlers. In addition, local farmers responded faster than expected in qualifying for the production of Grade A milk, as required by the new Minneapolis milk ordinance. These factors convinced the producer interests in the area, and particularly the TCMPA, that the level of Class I prices during the August to November period was higher than necessary to maintain an adequate supply of Grade A milk, and was too high in relation to Chicago prices to maintain normal market stability.

In an effort to lower this $1 seasonal differential before it became operative again, the TCMPA requested the USDA to call a public hearing for the purpose of considering its proposals to amend the order, as well as those that might be submitted by handlers and other interested parties. The association's plan was to lower minimum farm prices during this period by about 20 cents, (1) by decreasing the seasonal differential for the fall months to 85 cents above the basic price for milk when less than $3 a hundredweight and to 90 cents when the basic price was $3 or higher, and (2) by revising the Class II formula with respect to manufacturing allowances and yields of butter and nonfat dry milk solids, so that its net effect was to lower the Class II price level by an average of about 4.7 cents a hundredweight.

Two handlers responded to the request for additional proposals by suggesting an extension in the marketing area and a change in the classification of buttermilk. A group composed of 12 producer cooperative associations in Wisconsin and 1 in Minnesota proposed a change in the classification procedures applicable to "emergency" imports of milk. The Dairy Branch requested a clarification of the status of producer-handlers selling to other handlers.

The public hearing was held at Minneapolis on April 13 and 14, 1950. Only two Twin City distributors participated in the hearing, and each was a proponent for changes that would have benefited its competitive position in the market.

In addition to the proponents of amendments, two distributors on the edge of the marketing area appeared at the hearing in opposition to a proposal to extend the marketing area to include the village of Anoka. This hearing resembled the original order-promulgation hearing in 1945 in that there were no disagreements between the producer group and the distributors. The harmony at this hearing was undoubtedly accounted for by the fact that a producer group was requesting amendments to a Federal milk order that actually lowered the level of Class I prices.

On the basis of the evidence in the hearing record and after consideration of the facts, proposed findings, and arguments contained in legal briefs filed by the TCMPA, the Dairy Cooperative Institute, Maple Island, Inc., and Anoka Dairy after the conclusion of the hearing, the Assistant Administrator for Marketing, PMA, announced his recommended decision on the proposals on July 12, 1950. Uniquely enough, no one filed exceptions to the recommended decision. The Secretary of Agriculture signed the final decision on August 8, 1950. No handlers signed the proposed marketing agreement, but a revised Federal order was made effective on August 16, 1950, by the Secretary of Agriculture after it had been determined that the TCMPA, representing more than 80 percent of the producers supplying the market during the representative period of May 1950, approved its issuance as promulgated.

Issues Developed at the Third Public Hearing

The changes effected by the 1950 amendments to the order included:

(1) A reduction in the level of minimum prices to farmers for milk in both Class I and Class II. The Class II price was lowered by an average of about 4.7 cents a hundredweight by the adoption of new manufacturing allowances and yield factors for butter and nonfat dry milk solids in the butter-powder formula of the order. The Class I price was also lowered an equivalent amount in those months when the butter-powder formula served as the "basic" price for Class I milk. In addition, the Class I price was lowered further during the period August through November by a reduction in the seasonal differential from $1 a hundredweight to 85 cents.

The TCMPA requested a revision of the Class II butter-powder formula and a lowering of the seasonal price differentials on Class I milk. Naturally, no distributors opposed these price reductions. The association's reasons for the price decreases were the same as those given earlier in this section -- that the level of prices in the Twin City market was higher than necessary to maintain an adequate supply of Grade A milk and too high in relation to Chicago prices to prevent producers adjacent to both areas from shifting to the Minneapolis-St. Paul market and thereby disrupting normal market stability. The association asked that this reduction in Class I prices be achieved by lowering the differential from $1 to 85 cents from the period August through November if the basic price for milk was less than $3 a hundredweight and to 90 cents if the basic price was $3 or higher. At the same time, however, it asked for an increase in the differential from 70 to 85 cents for the month of July since it was also a month when milk began to be in short supply. No groups opposed this stand, but the Department's decision denied an increase in July on the ground that the increase was unnecessary to insure an adequate supply of milk. It also denied the proposal to reduce the seasonal differential to 90 cents (instead of 85 cents) when the basic price was $3 or more; the Dairy Branch felt the need for a more comprehensive analysis of the proposal before adopting it.

The TCMPA also proposed to lower the price level for Class II milk by adopting new manufacturing allowances and yield factors in the butter-powder formula. These new factors were based on the results of research studies conducted by the USDA, and were designed to establish a price for Class II milk in the market which would be comparable with that paid for manufacturing milk by plants continguous to the marketing area. The Dairy Cooperative Institute, representing a group of Wisconsin and Minnesota manufacturing plants outside the area of the Twin City order, requested that the factors in the formula be changed sufficiently to reduce the local price of Class II milk to approximate the level of Class IV prices in Chicago. The two classes did not contain comparable products, however, so the USDA adopted the original TCMPA proposals.

(2) A classification of flavored milk and flavored milk drinks in hermetically sealed containers as Class II usage. This was added to classify a relatively new product sold in the marketing area by the Rochester Dairy Cooperative of Rochester, Minn.

(3) A classification of all unaccounted-for milk (which includes shrinkage) as Class I usage. This decision constituted a change from earlier orders, but was favored by all parties at the hearing and was adopted as part of the order.

(4) A clarification of the status of producer-handlers selling skim milk or cream to other handlers in the area. The Dairy Branch proposed the amendment which made a producer-handler a "producer" under the order only when he sold whole milk to another handler. Any sales of skim milk or cream to another handler were to be accounted for as interhandler transfers, and were to be outside the pricing provisions of the order.

(5) In addition, the entire order was renumbered and reissued to conform to the codification system required by the Federal Register.

Proposals Not Adopted

A large handler in the market (Franklin Cooperative Creamery) proposed an amendment that would have put cultured buttermilk or flavored

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Definitions:			
Marketing area ---	Cities of Minneapolis, St. Paul, Robinsdale, Wayzata, Columbia Heights, White Bear, West St. Paul, and South St. Paul, together with the following townships and all villages therein: Brooklyn, Crystal Lake, Golden Valley, St. Louis Park, Orono, Excelsior, Minnetonka, Edina, Bloominton, Richfield, Fridley, Mounds View, Rose, White Bear, New Canada, Grant, Oakdale, Woodbury, Cottage Grove, Newport, Mendota, West St. Paul, and Inver Grove -- all in the State of Minnesota.	Actual area unchanged but typographical errors corrected by changing "Crystal Lake" to "Crystal" and by adding "St. Anthony" to list of townships.	Unchanged.
Producer ---------	Any person who produces milk which is received at a plant (other than an emergency source) from which skim milk or butterfat is disposed of as Class I milk in the marketing area.	Any person who produces milk which is received at a "pool plant" directly from such person's farm.	Unchanged.
Emergency source of milk -	Any milk plant which ships skim milk and butterfat to the plant of a "handler" only during the months of July through November.	Renamed a "nonpool plant" and period shortened to include only months of August through November.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 -- Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Definitions: Continued			
Pool plant -------	Not Used.	A plant from which Class I milk is disposed of on wholesale or retail routes within the marketing area or a plant which transfers skim milk or butterfat directly or indirectly to a plant that disposes of Class I milk within the marketing area, unless such transfers are made only during the months of August through November.	Unchanged.
Handler ----------	Any person who receives milk that is disposed of as Class I milk within the marketing area; includes cooperative associations with respect to milk of its member-producers which it causes to be delivered directly to the plant of a "handler."	Any person in his capacity as an operator of a pool plant.	Unchanged.
Reports of handlers -------	Handlers required to submit to the market administrator within 8 days after the end of each month a report on receipts and disposition of all skim milk and butterfat and within 25 days a copy of their producer payroll.	Unchanged.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 -- Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Definitions: Continued			
Producer handlers -----	Handlers who distribute only milk of their own farm production exempt from filing handler reports and from regulatory provisions. Market administrators may require information reports. Producer-handlers required to furnish evidence of status to secure exemption.	Unchanged.	Unchanged.
Classification:			
Class I --------	Fluid milk, skim milk, cream (sweet or sour), mixtures of cream and milk, cultured buttermilk, flavored milk drinks, and unaccounted for milk.	Natural buttermilk, flavored milk, eggnog, aerated cream, ready-whipped cream and mixes for topping and uses similar to those of whipped cream and certain plant shrinkage added to list of Class I products.	Revised to include all unaccounted for milk (including shrinkages).
Class II -------	All milk products not in Class I, and actual plant shrinkage not in excess of 1 percent of producer receipts.	Animal feed and certain shrinkages added to list of Class II products.	Revised to exclude shrinkages and include flavored milk and flavored milk drinks in hermetically sealed containers.
Out-of-area sales	Milk moved to a plant of a nonhandler located more than 100 miles from the market area is Class I if moved in the form of milk or skim milk and Class II if moved as cream or any other form. Producers receive	Unchanged.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 - Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Classification: Continued			
Out-of-area sales -- Continued	the same class prices for milk sold outside the marketing area as for milk sold within the marketing area.		
Outside purchases -----	Outside milk, including milk received by handler from an "emergency source," is classified in such handler's lowest use classification.	Unchanged.	Unchanged.
Inter-handler transfers ----	Milk disposed of by a handler to another handler in the form of milk, skim milk, or cream is classified as Class I milk. If the receiving handler is not a producer-handler, the milk or cream may be classified in accordance with its actual usage, if a statement is furnished signed by both buyer and seller. A producer-handler who disposes of skim milk or butterfat to another handler is considered a producer with respect to such sales.	Unchanged.	Sales of skim milk or cream by a producer-handler to another handler considered inter-handler sales.

Table 6. --Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 - Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1945	Amended August 16, 1950
Pricing:			
Class I prices --	A "basic" formula price plus the following seasonal differentials per hundredweight of 3.5 milk:	The "basic" formula price plus:	The "basic" formula price plus:
	(a) 50 cents for January through April; (b) 40 cents for May and June; (c) 70 cents for July through December.	(a) 50 cents for January through June; (b) 70 cents for July and December; (c) $1.00 for August through November.	(a) Unchanged; (b) Unchanged; (c) 85 cents for August through November.
	The "basic" formula price is the highest of: (1) Price per pound of 93-score butter in New York, times 3.5 plus 20 percent, plus an amount computed as follows: Price per pound of nonfat dry milk solids (spray and roller process, human consumption, carlot, f.o.b. Chicago area manufacturing plants) times 7.7, minus 42 cents.	Unchanged.	Price per pound of 93-score butter at New York, times 4.24 plus an amount computed as follows: Price per pound of spray process nonfat dry milk solids (for human consumption, carlots, Chicago area manufacturing plants) times 8.2, minus 65 cents.
	(2) Average of prices paid for 3.5 percent milk at 18 specified Midwest condenseries.	Unchanged.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 -- Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Pricing: Continued			
Class I prices -- Continued			
	(3) Price per pound of 93-score butter in New York, times 6, plus 2.4 times the price of "Twins" on the Wisconsin Cheese Exchange at Plymouth, Wis., divided by 7, plus 30 percent thereof, times 3.5.	Unchanged.	Unchanged, except that the price of "Cheddars" substituted for the price of "Twins."
Class II prices ------	The Class II price is computed in accordance with the "butter-powder" formula used as (1) in the basic formula price above.	Unchanged.	Unchanged.
Butterfat differentials:			
Class I price ---------	Price per pound of 93-score butter at New York, plus 25 percent, divided by 10.	Unchanged.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 -- Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16,1950
Butterfat differentials: Continued			
Class II prices ---------	Price per pound of 93-score butter at New York, plus 20 percent, divided by 10.	Unchanged.	Price per pound of 93-score butter at New York, plus **21.14 percent, divided by 10.**
Producer price ----------	Price per pound of 93 score butter at New York, plus 20 percent, divided by 10.	Unchanged.	Unchanged.
Location differentials ----	For Class I milk delivered to a handler's plant located outside the marketing area, the differential is $\frac{1}{2}$ cent for each full mile that such plant is located from the edge of the marketing area.	Differential increased to 1 cent per hundredweight, and applies for each full mile that such plant is located more than 15 miles from the Minnesota Transfer Viaduct over University Avenue in St. Paul.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 -- Continued

Provision with respect to --	Included under Federal Milk Order No. 73		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Butterfat differentials: Continued			
Emergency pricing provision -----	If the Secretary of Agriculture finds that the Class I price computed for any delivery period is not in the public interest, the price shall be the same as the Class I price for the preceding delivery period.	Deleted.	Deleted.
Other provisions:			
Accounting method -------	Weight of skim milk and butterfat utilized in the products of each class.	Unchanged.	Unchanged.
Type of pool ---------	Individual handler, monthly pool, without base rating plan or new producer clause. If a handler is required by health authority to separate his producers into two groups and to receive and handle separately the milk received from each group, a separate uniform price may be computed for each group.	Unchanged.	Unchanged.

Table 6. -- Summary of important provisions of Federal Milk Order No. 73, Minneapolis-St. Paul marketing area, promulgated in 1945, amended in 1949 and 1950 -- Continued

Provision with respect to --	Included under Federal Milk Order No. 73 --		
	Effective November 3, 1945	Amended February 1, 1949	Amended August 16, 1950
Other provisions: Continued			
Payments to producers -------	Handlers must pay: (1) individual producers' uniform prices for milk within 20 days after the end of each month; (2) cooperative association class prices for milk delivered by members to handlers, within 10 days after the end of each month; and (3) cooperative associations, for the approximate value of total milk delivered during the first 15 days of the month, on or before the 20th day of each month.	(1) Unchanged; (2) pay cooperative associations, on or before 15 days after the end of each month, uniform prices for milk delivered by members directly to handlers' plant; (3) cooperative associations, on or before 15 days after the end of each month, class prices for milk purchased from an association plant; (4) unchanged.	Unchanged.
Expense of administration ---	Handlers pay administrative costs not to exceed 2 cents per hundredweight of Class I milk.	Unchanged.	Unchanged.
Special producer provisions ------	A marketing service charge not exceeding 2 cents is deducted for producers who are not members of qualified cooperative associations.	Unchanged.	Unchanged.
	Handlers are required to furnish producers a statement showing pertinent data on amount of deliveries, average butterfat content, uniform price, amount and rate of deductions.	Unchanged.	Unchanged.

milk drinks made from natural buttermilk churned in a handler's own plant into Class II. This proponent offered the only testimony in favor of the reclassification of buttermilk, and was cross-examined at length by representatives of the TCMPA, the USDA, and another distributor as to the effects of his proposal. The other distributor in his testimony at the hearing, opposed the change and the TCMPA opposed it in a legal brief as being against the basic purposes of the enabling act or the order. It was not made a part of the amended order.

Clover Leaf Creamery Company of Minneapolis asked to have the village of Anoka included in the Minneapolis-St. Paul marketing area, principally because it had recently purchased a business in that community and was distributing milk there in competition with companies that were not subject to the pricing and regulatory provisions of the Twin City order. Two distributors serving Anoka and surrounding area opposed the inclusion of Anoka into the regulated area; they emphasized that the village of Anoka was isolated from the present marketing area by an area not included by Clover Leaf Creamery's proposal. The TCMPA also asked for a rejection of the proposal in its legal brief filed after the public hearing, and the change was not made.

Operating Experience Under Federal Order No. 73

Marketing Services

Beginning in November 1945, the market administrator check-weighed and check-tested the milk delivered to proprietary handlers in the Twin City market by producers who were not members of cooperatives. No facilities are maintained for this special purpose; the actual work involved in collecting samples of milk and checking weights is performed by personnel of the Twin City Quality Control Committee and the TCMPA under contract with the market administrator. Under the terms of the contracts, TCMPA receives a nominal sum of 10 cents a sample tested and the Quality Control Committee is paid amounts claimed by the committee to be actual operating costs. Since March 1, 1949, the amount has been 40 cents a sample.

Order No. 73 requires that the benefited producers bear the cost of this checking service by paying an assessment on their milk shipped into the marketing area. Since the order became effective in November 1945, this rate has been set at 2 cents a hundredweight, the maximum rate of assessment permitted under the order. Table 7 shows a substantial decrease in assessments collected, ranging from a high of $13,838 in 1946 to $2,118 in 1950. This decrease reflects the sharp decline in the volume of milk supplied the market by producers not members of cooperatives.

Administrative Assessments Under Order No. 73

The expense of administering the operations of the Twin City milk order has been borne by the handlers through the payment of an administrative assessment on all producer receipts disposed of as Class I milk. The

Table 7.-- Income and expenses of the Marketing Services Fund, Federal Milk Order No. 73, 1945-50 1/

Year	Income from assessments collected	Operating expense for --				Excess or deficiency income over expenses	Operating balance at end of year
		Salaries	Testing and weighing	Other	Total		
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1945 2/	1,593.00	72.69	1,123.93	17.70	1,214.32	378.68	378.68
1946	13,837.74	1,700.14	11,945.00	275.88	13,921.02	-83.28	295.40
1947	12,444.77	1,215.72	12,414.32	243.90	13,873.94	-149.17	1,133.77
1948	6,821.42	1,373.22	7,641.97	132.10	9,147.29	-2,325.87	3,459.64
1949	4,706.42	837.48	2,295.70	535.65	3,668.83	1,037.59	2,636.61
1950	2,118.27	837.48	1,379.83	40.50	2,257.81	-139.54	2,497.07

1/ Accrual basis.
2/ November 3 - December 31 only.

The maximum assessment permitted by the order is 2 cents a hundredweight, and this amount actually was charged handlers from November 1945 through April 30, 1949. The administrative fund, however, began to accumulate sizable operating surpluses once the market administrator's office was equipped with facilities, and the assessment rate was reduced to 1-cent a hundredweight on all Class I producer milk on May 1, 1949. That rate continued in effect throughout 1950.

The receipts from the assessments pay the salaries of the market administrator and a staff of nine other employees. Five of these employees are accountants who conduct monthly audits of the books and accounts of all Twin City handlers to make sure that they have made proper payments and accounted for all milk received. These accountants are assigned to audit the accounts of different handlers at regular intervals, and are supervised by a supervising auditor responsible to the market administrator. The staff also includes a statistician who calculates the class prices and differentials provided for in the order and prepares pertinent statistical data for dissemination to authorized market interests and for public information.

Table 8 shows the amount of income received by the market administrator from handlers through the administrative assessment and the purposes for which the income was used. Salaries, of course, constitute the major expense of administering the order; also, sizable sums are spent on travel and automobiles, rent, and milk-sampling and testing. During each full year of operation until 1949 the fund accumulated a surplus of at least $20,000 above accrued expenses. The operating balance of about $94,500 on December 31, 1948, has since been reduced by the smaller yearly income (and deficiency of income over expenses) that has resulted from the new 1-cent assessment rate.

Table 8. -- Income, expenses, and recapitulation of the Administrative Fund, Federal Milk Order No. 73, 1945-50 1/

INCOME

Year	Assessments	Other income	Total
	Dollars	Dollars	Dollars
1945 2/	6,927.37	-------	6,927.37
1946	82,997.38	199.37	83,196.75
1947	77,126.14	40.00	77,166.14
1948	75,937.71	220.00	76,157.71
1949	54,720.91	519.73	55,240.64
1950	40,057.11	1,742.69	41,799.80

EXPENSE

Year	Salaries	Travel and automobile	Milk samples	Rent	Other	Total
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1945 2/ .	3,265.93	35.63	137.64	133.52	811.70	4,384.42
1946 . .	31,753.09	2,106.71	1,824.60	1,589.28	2,465.09	39,738.77
1947 . .	38,970.69	2,653.92	2,981.66	1,702.84	3,135.67	49,444.78
1948 . .	42,884.41	3,708.76	3,272.70	2,444.38	3,067.78	55,378.03
1949 . .	43,313.28	4,410.68	5,194.64	2,774.18	3,848.09	59,540.87
1950 . .	44,562.91	4,790.92	6,958.43	2,977.68	3,799.23	63,089.17

RECAPITULATION

	Operating balance as at end of year	Excess or deficiency of income over expense
	Dollars	Dollars
1945 2/	2,542.95	2,542.95
1946	46,000.93	43,457.98
1947	73,722.29	+ 27,721.36
1948	94,501.97	+ 20,799.68
1949	85,143.08	- 4,300.23
1950	3/ 64,250.86	- 21,289.37

1/ Accrual basis.

2/ November 3 - December 31 only.

3/ Includes $397.15 unrecorded assessment income.

VIII. ECONOMIC ANALYSIS OF THE FLUID MILK MARKET BEFORE AND DURING THE PERIOD OF FEDERAL REGULATION

Supply of Milk, 1946-50

One of the basic purposes of the act authorizing Federal milk orders is to fix such producer prices as will "insure a sufficient quantity of pure and wholesome milk." Tables 9 and 10 indicate the total amount of milk supplied the Twin City marketing area from 1946 through 1950, and from what sources the milk came. Total market receipts decreased annually between 1946 and 1948, but have increased considerably since 1949. Several trends are of particular significance:

(1) Cooperative associations of milk producers have supplied an increasingly large share of the needs of the Twin City market.

(2) The TCMPA had been able continually to increase its share of the total milk supplied the local fluid market (own production plus purchases from members of other cooperatives) until 1950. During 1950 other cooperative associations of producers began to supply distributors who formerly purchased milk from the association.

(3) The substantial decline in the importance of those producers not members of cooperative associations and of those farms owned by distributors.

(4) The increase in the amount of producer milk supplied the market since 1948. 7/

Supply of Milk, TCMPA, 1920-50

An indication of the long-run trend in milk production for the local fluid market can be obtained by examining the data in table 11. These data indicate the total volume of milk handled by the TCMPA each year from 1920 through 1950 and the proportion of this production that was sold for fluid uses by Twin City distributors. Except in 1932 the TCMPA has supplied all the large distributors with their fluid milk needs since about 1923, and the volume sold to distributors generally represents about 75 to 85 percent of the volume of milk consumed in the market during these years. On this basis, the amount of milk supplied the market by TCMPA has more than doubled from 215 million pounds in 1923 to 549 million in 1950. Although this trend in volume of milk available to the market has been continually upward, it leveled off somewhat between 1930 and 1937 and increased rapidly during 1945 and 1946 and 1949.

7/ Order No. 73 does not differentiate between Grade A milk and milk used only for manufacturing purposes; hence it is difficult to estimate how much of the increase in producer milk is actually Grade A milk available for distribution to consumers.

Table 9.--Total receipts of milk, cream, and skim milk from all sources, Minneapolis-St. Paul marketing area, 1946-50

Source	1946	1947	1948	1949	1950
	Pounds	Pounds	Pounds	Pounds	Pounds
PRODUCER MILK:					
Twin City Milk Producers Association	501,435,566	501,672,324	502,211,065	534,847,908	536,558,664
Baldwin Coop. Creamery					1/ 32,177,043
Sugar City Coop. Creamery	23,676,704	23,260,089	23,217,444	25,841,777	26,728,521
Delano Coop. Creamery Association	21,909,733	21,869,592	24,609,318	25,442,606	22,332,734
Arlington Creamery Association		2/ 6,816,697	8,963,509	12,998,865	14,890,833
Monticello Coop. Creamery				3/ 5,289,981	4/ 13,641,664
St. Michael Coop. Creamery			5/ 5,516,947	12,048,243	10,989,007
Crown Coop. Creamery			5/ 5,133,178	6/ 10,264,894	4/ 9,042,648
Buffalo Coop. Creamery					3/ 1,447,035
Bongard's Coop. Creamery Association	3/ 2,863,584				
East Union Coop. Creamery	4/ 8,838,892				
Glencoe Butter and Produce Company	5/ 16,226,594				
Lindstrom Coop. Creamery	3/ 1,173,564				
Mayer Coop. Creamery Association	2/ 5,625,310				
Scandia Coop. Creamery Association	1/ 10,849,457				
Star Creamery Association	7/ 1,026,849	8/ 3,318,207			
Total Coop. Associations	593,626,253	556,936,909	569,651,461	626,734,274	667,808,149
Nonmember Producers	69,718,701	57,475,768	33,211,320	21,897,214	10,479,202
Distributor's own farm	5,002,644	4,913,189	4,296,337	3,050,312	2,859,493
Producer-handlers	7,474,620	6,570,000	6,816,760	6,590,060	4,567,580
Total producer milk	675,822,218	625,895,866	613,975,878	658,271,860	685,714,424
OTHER RECEIPTS:					
Bottled milk from producer-handlers	618,679	644,023	400,393	839,331	353,384
Skim milk from producer-handlers				98,441	96,740
Farm separated cream	389,284	809,685	1,099,583	1,430,376	1,181,043
Receipts from emergency sources	2,439,739	1,781,781	1,595,546	119,590	
TCMPA receipts from members of other coops.	20,493,538	17,016,149	10,720,445	21,335,624	10/ 26,320,128
Overstated sales			703,746	124,540	700,206
Other sources	9/ 90,884,263	6,157,415	1,647,779		
Total market receipts	790,647,721	652,304,919	630,143,370	682,219,762	714,365,925

1/ 8 months. 2/ 9 months. 3/ 1 month. 4/ 10 months. 5/ 7 months. 6/ 6 months. 7/ 2 months. 8/ 5 months.

9/ Includes 66,857,025 pounds of skim milk from Land O' Lakes Creameries, Inc. 10/ Includes receipts from emergency sources and other sources.

Table 10.--Percentage receipts of milk, cream, and skim milk from all sources, Minneapolis-St. Paul marketing area, 1946-50

Source	1946	1947	1948	1949	1950
	Percent	Percent	Percent	Percent	Percent
PRODUCER MILK:					
Twin City Milk Producers Association	63.42	76.91	79.70	78.40	75.10
Baldwin Coop. Creamery					4.50
Sugar City Coop. Creamery	3.00	3.57	3.68	3.79	3.74
Delano Coop. Creamery Association	2.77	3.35	3.91	3.73	3.13
Arlington Creamery Association		1.04	1.42	1.90	2.09
Monticello Coop. Creamery				.78	1.91
St. Michael Coop. Creamery			.88	1.77	1.53
Crown Coop. Creamery			.81	1.50	1.27
Buffalo Coop. Creamery					.20
Bongard's Coop. Creamery Association	.36				
East Union Coop. Creamery	1.12				
Glencoe Butter and Produce Company	2.05				
Lindstrom Coop. Creamery	.15				
Mayer Coop. Creamery Association	.71				
Scandia Coop. Creamery Association	1.37				
Star Creamery Association	.13	.51			
Total coop. associations	75.08	85.38	90.40	91.87	93.47
Nonmember producers	8.82	8.81	5.27	3.21	1.46
Distributor's own farm	.63	.75	.68	.45	.40
Producer-handlers	.95	1.01	1.03	.96	.64
Total producer milk	85.48	95.95	97.43	96.49	95.97
OTHER RECEIPTS:					
Bottled milk from producer-handlers	.08	.10	.06	.12	.05
Skim milk from producer-handlers				.01	.02
Farm separated cream	.05	.12	.18	.21	.16
Receipts from emergency sources	.31	.27	.26	.02	
TCMPA receipts from members of other coops.	2.59	2.61	1.70	3.13	3.70
Overstated sales			.11	.02	.10
Other sources	11.49	.95	.26		
Total market receipts	100.00	100.00	100.00	100.00	100.00

Compiled from records of the Market Administrator.

Table 11.--Disposition of milk handled, Twin City Milk Producers Association, 1920-50

Year	Volume of milk handled	Quantity sold as fluid milk	Quantity manufactured as surplus	Percentage sold as fluid milk	Percentage manufactured as surplus
	Pounds	Pounds	Pounds	Percent	Percent
1920	97,303,379	78,218,850	19,084,529	80.4	19.6
1921	147,031,303	98,242,331	48,788,972	66.8	33.2
1922	161,502,871	116,751,838	44,751,033	72.3	27.7
1923	215,035,772	140,010,056	75,025,716	65.1	34.9
1924	252,053,926	143,521,773	108,532,153	56.9	43.1
1925	279,521,109	150,435,501	129,085,608	53.8	46.2
1926	297,226,178	148,203,976	149,022,202	49.9	50.1
1927	296,416,296	150,711,362	145,704,934	50.8	49.2
1928	315,264,795	155,137,504	160,127,291	49.2	50.8
1929	347,880,437	157,261,703	190,618,734	45.2	54.8
1930	370,826,637	161,907,661	208,918,976	43.7	56.3
1931	363,487,501	155,776,287	207,711,214	42.9	57.1
1932	363,846,571	151,755,717	212,090,854	41.7	58.3
1933	373,965,325	177,774,813	196,190,512	47.5	52.5
1934	374,042,953	168,147,952	205,895,001	45.0	55.0
1935	350,733,327	176,614,759	174,118,568	50.4	49.6
1936	388,888,603	182,805,274	206,083,329	47.0	53.0
1937	386,901,044	185,235,531	201,665,513	47.9	52.1
1938	418,771,755	182,904,827	235,866,928	43.7	56.3
1939	413,234,718	186,881,559	226,353,159	45.2	54.8
1940	433,522,484	186,070,874	247,451,610	42.9	57.1
1941	446,770,919	190,370,276	256,400,643	42.6	57.4
1942	450,598,898	202,921,267	247,677,631	45.0	55.0
1943	457,897,737	254,280,596	203,617,141	55.5	44.5
1944	460,794,336	262,137,848	198,656,488	56.9	43.1
1945	504,065,051	284,226,697	219,838,354	56.4	43.6
1946	525,159,256	301,461,873	223,697,383	57.4	42.6
1947	517,938,861	288,352,823	229,586,038	55.7	44.3
1948	511,812,360	298,742,038	213,070,322	58.4	41.6
1949	554,630,968	310,936,263	243,694,705	56.1	43.9
1950	549,126,379	321,670,917	227,455,462	58.6	41.4

Compiled from records of the Twin City Milk Producers Association.

Although these data indicate that the total annual volume of milk shipped to the market is greater than actual Class I sales, the seasonality of this production creates a serious problem. For a complete discussion of this problem see the section headed "Seasonality of Milk Production."

Number of Producers, 1946-50

The number of producers in the Twin City market declined considerably during the first full year of operation of Federal Order No. 73 (1946). Between 1946 and 1949 it declined only slightly; about 5,500 to 5,900 farmers regularly supplied the milk requirements of the metropolitan consumption area. During most of the months since March 1950 the total number of producers has increased as additional producer cooperatives entered the market. The consistent decrease in the number of producers not members of cooperatives accounted for a considerable part of the decline in 1946 and 1947, although this has been partially offset by the number of cooperative creameries which have entered the market since 1947. A part of the fluctuation in producer numbers also is due to the entry and subsequent withdrawal of outlying cooperatives that occasionally supply cream to handlers and candy manufacturers. This entry and withdrawal of cooperatives was particularly noticeable during 1946.

The Twin City Milk Producers Association members made up about 75 to 85 percent of the producers in the market from year to year since 1923 and they supplied about the same proportion of the milk needs. Column 1 of table 12 shows the difficulty experienced by the association in maintaining the number of member-shippers to the market. The number of such shippers has declined almost consistently from month to month, and at periodic intervals the association has had to purchase adjacent plants to retain the number of producers required to maintain volume. The remainder of market supplies come from nonmember producers, from producers who bottle and distribute their own production, and from farms owned and operated by the distributors. All these groups have tended to decrease in importance; the number of nonmember producers decreased from an average of 667 in 1946 to 43 in 1950 and the number of farms owned and operated by distributors decreased from 10 to 5 during the same period.

Number of Producers, 1920-50

Table 13, compiled from information supplied by the health departments of Minneapolis and St. Paul, shows that the number of farm producers under inspection and with permits to supply the St. Paul market remained fairly constant from 1930 through 1944, never exceeding 1,500 farmers nor falling below 1,400. Beginning in 1945, however, the number of producers licensed by the St. Paul Bureau of Health declined to a low of 1,200 in 1948. Minneapolis has no record of permits issued before 1937, but since that time the number of licensed producers has also

Table 12.--Number of producers supplying milk to the Minneapolis-St. Paul marketing area, classified according to membership in cooperative associations or type of nonmember status, by months, 1946-50

Year and month	Twin City Milk Producers Assn.	Other cooperative associations		Distributors' own farms	Nonmember producers	Total producers
		Number of assns.	Number of producers			
	Number	Number	Number	Number	Number	Number
1946						
January	4,760	7	1,437	10	619	6,826
February	4,744	6	1,266	10	674	6,694
March	4,698	5	936	10	679	6,323
April	4,657	5	922	10	650	6,239
May	4,653	6	1,268	10	682	6,613
June	4,662	5	924	10	700	6,296
July	4,624	5	1,161	10	676	6,471
August	4,634	3	610	10	657	5,911
September	4,626	5	1,170	10	665	6,471
October	4,626	4	936	10	713	6,285
November	4,626	5	1,344	10	660	6,640
December	4,606	3	589	10	627	5,832
Average	4,660	4.9	1,047	10	667	6,383
1947						
January	4,550	3	585	10	632	5,777
February	4,554	3	590	10	549	5,703
March	4,564	3	604	10	544	5,722
April	4,502	4	827	10	533	5,872
May	4,501	4	825	10	542	5,878
June	4,417	3	711	10	547	5,685
July	4,424	3	700	10	535	5,669
August	4,389	3	701	10	580	5,680
September	4,352	3	699	11	385	5,447
October	4,296	3	697	11	346	5,350
November	4,214	3	682	11	276	5,183
December	4,202	3	672	11	265	5,150
Average	4,414	3.2	691	10	478	5,593
1948						
January	4,199	3	617	11	275	5,102
February	4,179	3	632	11	272	5,094
March	4,188	3	633	6	273	5,100
April	4,350	3	679	6	271	5,306
May	4,315	3	710	6	271	5,302
June	4,701	5	1,022	6	150	5,879
July	4,675	5	1,004	6	148	5,833
August	4,619	5	1,002	6	165	5,792
September	4,574	5	1,005	6	166	5,751
October	4,512	5	1,016	6	166	5,700
November	4,486	5	1,019	6	174	5,685
December	4,452	5	1,029	6	174	5,661
Average	4,438	4.2	864	7	209	5,517

Continued-

Table 12.--Number of producers supplying milk to the Minneapolis-St. Paul marketing area, classified according to membership in cooperative associations or type of nonmember status, by months, 1946-50 -Continued

Year and month	Twin City Milk Producers Assn.	Other cooperative associations		Distributors' own farms	Nonmember producers	Total producers
		Number of assns.	Number of producers			
	Number	Number	Number	Number	Number	Number
1949						
January	4,399	5	1,012	6	176	5,593
February	4,477	5	1,014	6	217	5,714
March	4,454	5	1,045	6	216	5,721
April	4,426	5	1,037	6	118	5,587
May	4,404	5	1,033	6	119	5,562
June	4,400	5	1,055	6	106	5,567
July	4,355	6	1,271	6	121	5,753
August	4,340	6	1,241	5	121	5,707
September	4,306	6	1,248	5	122	5,681
October	4,304	6	1,249	5	48	5,606
November	4,271	6	1,252	5	49	5,577
December	4,164	6	1,257	5	49	5,475
Average	4,358	5.5	1,143	6	122	5,629
1950						
January	4,250	6	1,232	5	42	5,529
February	4,239	6	1,227	5	42	5,513
March	4,199	6	1,271	5	44	5,519
April	4,278	6	1,266	5	43	5,592
May	4,267	7	1,828	5	44	6,144
June	4,227	7	1,759	5	43	6,034
July	4,243	7	1,752	5	43	6,043
August	4,429	5	1,297	5	43	5,774
September	4,189	5	1,278	5	43	5,515
October	4,140	7	1,661	5	44	5,850
November	4,127	7	1,693	5	45	5,870
December	4,084	8	1,884	5	44	6,017
Average	4,223	6.4	1,512	5	43	5,783

Compiled from reports to the Market Administrator.

Table 13.--Number of farm producers under inspection, Minneapolis and St. Paul, 1929-50

Year	St. Paul	Minneapolis	Total
	Number	Number	Number
1929	1,700		
1930	1,500		
1931	1,500		
1932	1,480		
1933	1,400		
1934	1,498		
1935	1,455		
1936	1/		
1937	1,410	2,712	4,122
1938	1,440	2,321	3,761
1939	1,456	2,307	3,763
1940	1,400	2,156	3,556
1941	1,425	1,974	3,399
1942	1,432	2,155	3,587
1943	1,417	2,309	3,726
1944	1,420	2,278	3,698
1945	1,350	2,107	3,457
1946	1,310	2,051	3,361
1947	1,280	1,961	3,241
1948	1,200	1,735	2,935
1949	1/	2,632	--
1950	1/	2,524	--

1/ Not available.

Compiled from data supplied by the health departments of Minneapolis and St. Paul.

declined annually except in 1942, 1943, and 1949. During 1942 and 1943 about 150 additional permits were issued each year; the largest increase came during 1949 when approximately 900 new permits were issued. When the two cities are considered as a unit, the number of farms under inspection has decreased from a maximum of 4,122 in 1937 to a minimum of 2,935 in 1948. 8/

Table 14 shows the trends in the number of TCMPA members who have shipped milk and cream to the market since 1929; again the long-range decline in the number of producers is evident. At the same time that the number of producers in the market has declined, the amount of milk consumed in the Twin City market has increased. The metropolitan demand for milk has been met, therefore, not by increasing the number of producers, but by increasing the amount of milk produced on each farm.

Shifts in Number and Location of Dairy Farms

One of the principles observed in promulgating milk orders is that an adequate supply of wholesome milk can be made available to a marketing area by insuring the relative profitableness of such production relative to adjacent fluid markets, other milk products, and competing farm enterprises.

Table 15 shows the changes that have taken place in the number and location of dairy farms during the period of Federal regulation of the local fluid market. Section A of the table covers the seven counties in Minnesota that lie entirely within a 40-mile circle of the Twin Cities (and that are usually considered the milkshed proper); Section B presents the same data for nine other counties that lie in a circle surrounding the seven counties that comprise the principal milkshed. (See fig. 4.) The final portions of the table give the same data for the remainder of the counties in the State and the entire State as a unit.

In 1933, 163,485 farms in the State of Minnesota reported cows kept for milk and, except for increases of more than 4,000 such farms in 1935 and additional increases in 1939 and 1941, this number has declined each year since that time. By 1950, only 133,677 farms reported that they were keeping dairy cows. The 7 counties lying entirely within the milkshed showed a similar but more marked decline in the number of dairy herds; there the number decreased from 11,156 in 1933 to 7,726 in 1950. In this milkshed area, there was no increase in 1939 and 1941 as there was in the

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8/ The discrepancy between the number of producers licensed by the health departments of the Twin Cities and the number of producers in the market as reported by the Federal milk market administrator is explained by the fact that cream producers do not need health department inspection permits to sell cream in either city. Thus, when outlying creameries obtain cream outlets in the Twin Cities, they become subject to the Federal order and their members are included in the statistical compilations of the market administrator.

Table 14.--Number of milk and cream shippers, and average size of daily shipment, Twin City Milk Producers Association, 1929-50

Year	Milk		Cream	
	Shippers	Average size of shipment	Shippers	Average size of shipment
	Number	Pounds of milk	Number	Pounds of butterfat
1929	5,731	167	615	5.0
1930	5,982	170	613	5.1
1931	5,866	170	761	5.1
1932	5,872	170	641	5.1
1933	5,801	178	660	5.3
1934	5,889	174	507	4.6
1935	5,812	165	462	4.5
1936	5,864	179	433	5.0
1937	5,676	187	352	4.8
1938	5,697	201	357	5.3
1939	5,282	214	387	5.5
1940	5,240	226	326	5.7
1941	5,162	236	288	6.3
1942	5,079	241	198	5.7
1943	5,021	238	148	5.4
1944	4,954	246	95	4.8
1945	4,843	274	1/	
1946	4,660	295		
1947	4,414	310		
1948	4,438	311		
1949	4,358	336		
1950	4,223	349		

1/ Discontinued receiving cream after first 5 months.

Compiled from records of the Twin City Milk Producers Association and the Market Administrator.

Table 15.—Number of farms reporting cows and heifers 2 years old and over kept for milk, State of Minnesota and Minnesota counties within and contiguous to the Minneapolis-St. Paul market, 1933-41

Counties within milkshed	1933	1934	1935	1936	1937	1938	1939	1940	1941
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Section A:									
Anoka	1,299	1,290	1,363	1,255	1,245	1,212	1,193	1,191	1,198
Carver	1,885	1,930	1,936	1,889	1,887	1,861	1,891	1,879	1,910
Dakota	1,756	1,848	1,941	1,911	1,838	1,342	1,826	1,814	1,812
Hennepin	2,696	2,629	2,805	2,678	2,534	2,430	2,403	2,386	2,380
Ramsey	504	511	506	436	503	513	479	460	440
Scott	1,483	1,482	1,538	1,518	1,508	1,485	1,472	1,483	1,485
Washington	1,533	1,531	1,621	1,559	1,492	1,446	1,437	1,421	1,377
Total of 7-county area	11,156	11,221	11,710	11,246	11,007	10,789	10,701	10,634	10,602
Counties contiguous to milksheds:									
Section B:									
Chisago	1,854	1,834	1,890	1,840	1,839	1,805	1,797	1,757	1,766
Goodhue	2,674	2,678	2,692	2,562	2,633	2,596	2,627	2,628	2,644
Isanti	1,874	1,826	1,823	1,721	1,709	1,673	1,664	1,645	1,635
LeSueur	1,945	1,944	1,947	1,874	1,926	1,874	1,947	1,908	1,898
McLeod	2,351	2,327	2,364	2,344	2,388	2,359	2,353	2,383	2,362
Rice	2,131	2,092	2,179	2,112	2,140	2,073	2,087	2,076	2,092
Sherburne	1,142	1,123	1,165	1,058	1,027	1,003	1,011	1,004	1,035
Sibley	2,144	2,159	2,168	2,161	2,176	2,151	2,147	2,150	2,154
Wright	3,465	3,454	3,500	3,440	3,377	3,281	3,322	3,283	3,294
Total of 9-county area	19,580	19,437	19,728	19,112	19,215	18,815	18,955	18,834	18,880
Total of 16-county area	30,736	30,658	31,438	30,358	30,222	29,604	29,656	29,468	29,482
Total, State of Minnesota	163,485	164,543	168,900	163,901	163,245	159,868	162,360	161,717	162,727
Percentage of State total located within:									
7-county area	6.8	6.8	6.9	6.9	6.7	6.7	6.6	6.6	6.5
9-county area	12.0	11.8	11.7	11.6	11.8	11.8	11.7	11.6	11.6
16-county area	18.8	18.6	18.6	18.5	18.5	18.5	18.3	18.2	18.1

Continued-

Table 15.--Number of farms reporting cows and heifers 2 years old and over kept for milk, State of Minnesota and Minnesota counties within and contiguous to the Minneapolis-St. Paul market, 1942-50 -Continued

Counties within milkshed	1942	1943	1944	1945	1946	1947	1948	1949	1950
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Section A:									
Anoka	1,135	1,100	1,064	1,048	964	972	876	801	747
Carver	1,865	1,844	1,822	1,791	1,770	1,727	1,735	1,696	1,654
Dakota	1,733	1,730	1,677	1,646	1,615	1,532	1,448	1,422	1,364
Hennepin	2,323	2,285	2,135	2,019	1,854	1,775	1,649	1,569	1,456
Ramsey	424	414	377	326	278	230	221	194	168
Scott	1,485	1,438	1,420	1,382	1,350	1,310	1,276	1,283	1,265
Washington	1,332	1,347	1,320	1,296	1,235	1,206	1,074	1,093	1,072
Total of 7-county area	10,297	10,158	9,815	9,508	9,066	8,752	8,279	8,058	7,726
Counties contiguous to milksheds:									
Section B:									
Chisago	1,756	1,730	1,638	1,619	1,554	1,571	1,508	1,450	1,407
Goodhue	2,615	2,609	2,570	2,532	2,517	2,423	2,387	2,334	2,310
Isanti	1,558	1,529	1,478	1,410	1,400	1,395	1,340	1,320	1,260
LeSueur	1,891	1,850	1,775	1,778	1,715	1,677	1,646	1,595	1,563
McLeod	2,352	2,348	2,309	2,265	2,254	2,201	2,131	2,146	2,110
Rice	2,076	2,042	1,970	1,987	1,945	1,888	1,834	1,851	1,781
Sherburne	1,007	1,020	979	949	930	912	883	863	818
Sibley	2,161	2,136	2,108	2,066	2,025	2,015	1,941	1,934	1,897
Wright	3,342	3,290	3,218	3,156	3,111	3,067	2,948	2,922	2,857
Total of 9-county area	18,758	18,554	18,045	17,762	17,451	17,149	16,618	16,415	16,003
Total of 16-county area	29,055	28,712	27,860	27,270	26,517	25,901	24,897	24,473	23,729
Total, State of Minnesota	161,238	160,327	154,693	151,064	147,987	145,613	139,740	137,258	133,677
Percentage of State total located within:									
7-county area	6.4	6.3	6.3	6.3	6.1	6.0	5.9	5.9	5.8
9-county area	11.6	11.6	11.7	11.8	11.8	11.8	11.9	11.9	12.0
16-county area	18.0	17.9	18.0	18.1	17.9	17.8	17.8	17.8	17.8

Compiled from data contained in annual State Farm Census.

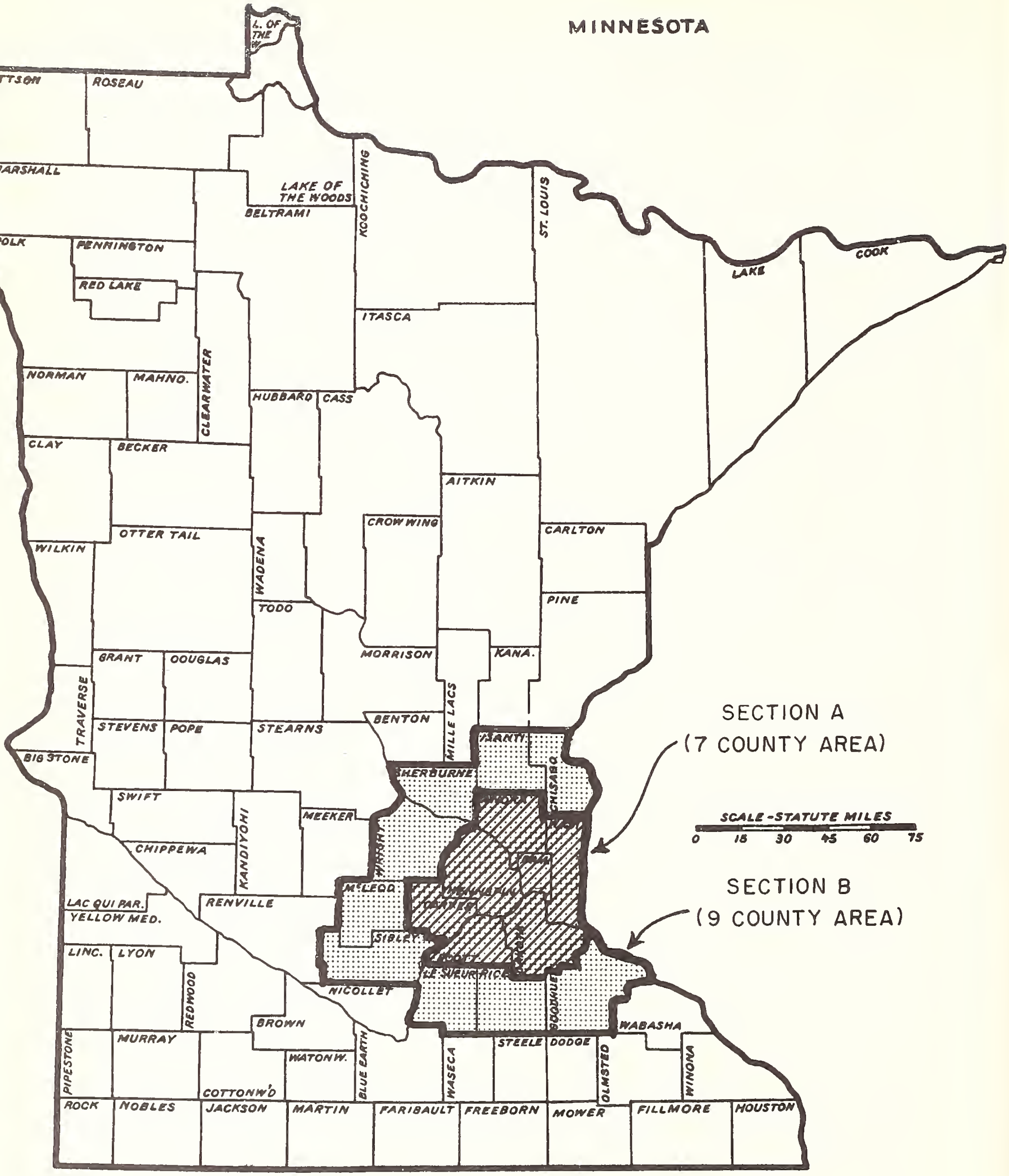

Figure 14. Location of seven- and nine-county areas surrounding the Twin City fluid milk market.

other areas of the State. In the 16-county area, the number of dairy herds declined from 30,736 in 1933 to 23,729 in 1950, although this larger area experienced slight increases in 1935, 1939, and 1941. Expressed in another way, there has been a greater relative decline in the milkshed area than in the entire State in the number of farms that report dairy cows kept for milk. In 1935, the 7 counties that comprise the principal milkshed had 6.8 percent of the State dairy farms, but this percentage has continued to decrease each year; by 1950 this area contained only 5.8 percent of the dairy farms. The same trend holds for the larger 16-county area surrounding the Twin Cities, where the portion of the States' dairy farms fell from 18.8 percent in 1933 to 17.8 percent during 1947-50.

Shifts in the Number and Location of Dairy Cows

The trend in the numbers of dairy cattle in the milkshed and in the State has followed a more varied course. For the State as a whole, during the period from 1933 to 1943, the number of dairy cattle ranged from 1,703,344 in 1934 to 1,491,737 in 1938. Since 1943 the number consistently has decreased to a minimum of 1,237,901 head in 1950. On the other hand, the peak in cattle numbers in the fluid milkshed areas was reached a year later than in the State, and the declines in cattle numbers in this area since 1944 have not been as marked as for the entire State. (See table 16.) This shift in cattle population is made clearer by noting that all the dairy cows in the immediately surrounding 7-county area comprised 7.2 percent of the State cattle population in 1933; since that time this proportion has increased almost continuously until in 1950 8.5 percent of the State's dairy cattle were concentrated in this area. Similar data for the contiguous 9-county area show that whereas 13.2 percent of the State's cattle were concentrated in this area in 1933, the continuing shifts increased the proportion to 15.1 percent in 1949. As a result, an additional 3.1 percent of the State's dairy cattle kept for milk have been concentrated in the 16-county area surrounding the Twin City fluid milk market.

Trends in Size of Dairy Herds in State and in Milkshed Areas

Table 17 presents certain compilations from basic data collected by tax assessors and published in aggregates as a State Farm Census for each year since 1933. These data indicate the changes that have taken place in the average size of the milking dairy herds in Minnesota counties, and permit a comparison of the within-milkshed counties with the more outlying areas and with the State averages.

The average size of dairy herd in the two areas decreased in 1935, but increased annually since that time and reached a peak in 1944 and 1945. The fluid milkshed (nearby 7-county area) maintained its peak size of herd through 1947. For the State as a whole, the average size

Table 16.—Number of cows and heifers 2 years old and over kept for milk, State of Minnesota and Minnesota counties within and contiguous to the Minneapolis-St. Paul market, 1933-41

Counties within milkshed	1933	1934	1935	1936	1937	1938	1939	1940	1941
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Section A:									
Anoka	11,955	12,982	12,398	11,793	12,187	12,624	12,216	12,285	12,357
Carver	25,639	27,350	25,739	26,455	26,149	26,197	26,726	26,756	27,868
Dakota	17,603	19,991	19,315	19,221	19,049	18,556	18,650	19,288	20,595
Hennepin	24,128	24,528	22,464	23,104	22,996	22,874	22,559	23,115	24,361
Ramsey	3,974	4,002	3,578	3,553	3,553	3,514	3,305	3,245	3,234
Scott	16,747	18,893	18,304	17,383	17,464	17,274	16,980	17,680	17,581
Washington	15,299	15,461	16,336	15,524	15,470	15,540	15,449	16,208	15,922
Total of 7-county area	115,345	123,207	118,134	117,033	116,868	116,579	115,885	118,577	121,918
Counties contiguous to milksheds:									
Section B:									
Chisago	17,539	18,691	17,913	17,738	18,488	18,405	18,295	18,666	19,153
Goodhue	33,952	35,512	32,529	30,896	32,780	32,203	32,159	33,332	34,143
Isanti	15,584	15,392	13,501	13,099	13,309	13,336	13,294	13,645	13,794
LeSueur	17,604	18,898	17,515	15,906	16,474	15,791	16,886	16,734	16,549
McLeod	29,519	29,978	27,781	27,564	27,563	27,525	27,686	28,211	28,611
Rice	24,900	25,352	24,204	23,498	24,030	23,455	23,000	23,543	24,057
Sherburne	10,362	10,657	9,939	9,338	9,262	9,290	9,350	9,506	10,011
Sibley	24,859	25,662	24,837	24,033	24,088	23,416	23,345	23,641	24,038
Wright	36,981	37,530	32,486	32,479	33,060	33,410	34,023	33,634	34,837
Total of 9-county area	211,300	217,672	200,705	194,551	199,054	196,831	198,038	200,912	205,193
Total of 16-county area	326,645	340,879	318,839	311,584	315,922	313,410	313,923	319,489	327,111
Total, State of Minnesota	1,599,519	1,703,344	1,576,747	1,502,067	1,510,439	1,491,737	1,504,886	1,528,736	1,576,907
Percentage of State total located within:									
7-county area	7.2	7.2	7.5	7.8	7.7	7.8	7.7	7.8	7.8
9-county area	13.2	12.8	12.7	12.9	13.2	13.2	13.2	13.1	13.1
16-county area	20.4	20.0	20.2	20.7	20.9	21.0	20.9	20.9	20.9

Continued-

Table 16.—Number of cows and heifers 2 years old and over kept for milk, State of Minnesota and Minnesota counties within and contiguous to the Minneapolis-St. Paul market, 1942-50 -Continued

Counties within milkshed	1942	1943	1944	1945	1946	1947	1948	1949	1950
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Section A:									
Anoka	12,316	12,573	12,731	12,144	10,824	10,513	9,231	8,377	7,894
Carver	28,122	29,183	30,020	30,174	29,510	28,421	27,740	27,137	27,088
Dakota	20,576	22,073	22,609	21,998	21,477	20,348	18,274	17,859	17,825
Hennepin	25,872	26,313	26,768	25,443	23,689	23,035	21,067	19,946	20,194
Ramsey	2,841	2,879	2,809	2,563	2,313	1,933	1,737	1,612	1,266
Scott	18,027	18,435	18,808	17,841	17,081	16,838	16,355	16,766	16,218
Washington	16,936	18,114	18,818	18,773	17,958	17,538	14,669	15,180	14,953
Total of 7-county area	124,690	129,570	132,563	128,941	122,852	118,626	109,073	106,877	105,438
Counties contiguous to milksheds:									
Section B:									
Chisago	19,949	20,794	20,616	20,198	19,187	19,375	18,090	17,193	16,635
Goodhue	35,708	37,059	37,955	37,836	37,375	35,842	33,780	33,612	32,017
Isanti	13,743	14,304	14,917	14,872	14,337	14,033	12,824	12,588	11,992
LeSueur	16,824	17,646	17,605	17,244	15,978	15,801	14,936	13,907	13,628
McLeod	29,452	31,116	31,843	31,213	31,066	30,123	27,952	28,007	27,272
Rice	24,543	25,262	25,494	25,513	24,224	23,594	22,157	21,876	20,897
Sherburne	10,285	10,636	10,470	10,092	10,115	9,186	8,691	8,320	8,210
Sibley	24,534	25,722	25,086	25,204	24,167	23,225	21,424	21,606	20,920
Wright	37,327	38,459	38,881	38,850	37,924	36,625	34,615	33,744	33,601
Total of 9-county area	212,365	220,998	222,867	221,022	214,373	207,804	194,469	190,853	185,172
Total of 16-county area	337,055	350,568	355,430	349,963	337,225	326,430	303,542	297,730	290,610
Total, State of Minnesota	1,602,397	1,658,181	1,643,017	1,578,094	1,486,492	1,415,344	1,298,115	1,265,066	1,237,901
Percentage of State total located within:									
7-county area	7.8	7.8	8.1	8.2	8.3	8.4	8.4	8.4	8.5
9-county area	13.2	13.3	13.5	14.0	14.4	14.7	15.0	15.1	15.0
16-county area	21.0	21.1	21.6	22.2	22.7	23.1	23.4	23.5	23.5

Compiled from data contained in annual State Farm Census.

Table 17.--Number of cows in average size of milking herd, State of Minnesota and Minnesota counties within and contiguous to the Minneapolis-St. Paul market, 1933-41

Counties within milkshed	1933	1934	1935	1936	1937	1938	1939	1940	1941
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Section A:									
Anoka	9.2	10.1	9.1	9.4	9.8	10.4	10.2	10.3	10.3
Carver	13.6	14.2	13.3	14.0	13.9	14.1	14.1	14.2	14.6
Dakota	10.0	10.8	10.0	10.1	10.4	10.1	10.2	10.6	11.4
Hennepin	8.9	9.3	8.0	8.6	9.1	9.4	9.4	9.7	10.2
Ramsey	7.9	7.8	7.1	8.1	7.1	6.8	6.9	7.1	7.4
Scott	11.3	12.7	11.9	11.5	11.6	11.6	11.5	11.9	11.8
Washington	10.0	10.1	10.1	10.0	10.4	10.7	10.8	11.4	11.6
Average, 7-county area	10.3	11.0	10.1	10.4	10.6	10.8	10.8	11.2	11.5
Counties contiguous to milksheds:									
Section B:									
Chisago	9.5	10.2	9.5	9.6	10.1	10.2	10.2	10.6	10.8
Goodhue	12.7	13.3	12.1	12.1	12.4	12.4	12.2	12.7	12.9
Isanti	8.3	8.4	7.4	7.6	7.8	8.0	8.0	8.3	8.4
LeSueur	9.1	9.7	9.0	8.5	8.6	8.4	8.7	8.8	8.7
McLeod	12.6	12.9	11.8	11.8	11.5	11.7	11.8	11.8	12.1
Rice	11.7	12.1	11.1	11.1	11.2	11.3	11.0	11.3	11.5
Sherburne	9.1	9.5	8.5	8.8	9.0	9.3	9.2	9.5	9.7
Sibley	11.6	11.9	11.5	11.1	11.1	10.9	10.9	11.0	11.2
Wright	10.7	10.9	9.3	9.4	9.8	10.2	10.2	10.2	10.6
Average, 9-county area	10.8	11.2	10.2	10.2	10.4	10.5	10.4	10.7	10.9
Average, 16-county area	10.6	11.1	10.1	10.3	10.5	10.6	10.6	10.8	11.1
State average	9.8	10.4	9.3	9.2	9.3	9.3	9.3	9.5	9.6
Difference between State average and average for:									
7-county area	+ .5	+ .6	+ .8	+ 1.2	+ 1.3	+ 1.5	+ 1.5	+ 1.7	+ 1.9
9-county area	+ 1.0	+ .8	+ .9	+ 1.0	+ 1.1	+ 1.2	+ 1.1	+ 1.2	+ 1.3
16-county area	+ .8	+ .7	+ .8	+ 1.1	+ 1.2	+ 1.3	+ 1.3	+ 1.3	+ 1.5

Continued-

Table 17.--Number of cows in average size of milking herd, State of Minnesota and Minnesota counties within and contiguous to the Minneapolis-St. Paul market, 1942-50 -Continued

Counties within milkshed	1942	1943	1944	1945	1946	1947	1948	1949	1950
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Section A:									
Anoka	10.9	11.4	12.0	11.6	11.2	10.8	10.5	10.5	10.6
Carver	15.1	15.8	16.5	16.8	16.7	16.5	16.0	16.0	16.4
Dakota	11.9	12.8	13.5	13.4	13.3	13.3	12.6	12.6	13.1
Hennepin	11.1	11.5	12.5	12.6	12.8	13.0	12.8	12.7	13.9
Ramsey	6.7	7.0	7.5	7.9	8.3	8.4	7.9	8.3	7.5
Scott	12.1	12.8	13.2	12.9	12.7	12.9	12.8	13.1	12.8
Washington	12.7	13.4	14.3	14.5	14.5	14.5	13.7	13.9	13.9
Average, 7-county area	12.1	12.8	13.5	13.6	13.6	13.6	13.2	13.3	13.6
Counties contiguous to milksheds:									
Section B:									
Chisago	11.4	12.0	12.6	12.5	12.3	12.3	12.0	11.9	11.8
Goodhue	13.7	14.2	14.8	14.9	14.8	14.8	14.2	14.4	13.9
Isanti	8.8	9.4	10.1	10.5	10.2	10.1	9.6	9.5	9.5
LeSueur	8.9	9.5	9.9	9.7	9.3	9.4	9.1	8.7	8.7
McLeod	12.5	13.3	13.8	13.8	13.8	13.7	13.1	13.1	12.9
Rice	11.8	12.4	12.9	12.8	12.5	12.5	12.1	11.8	11.7
Sherburne	10.2	10.4	10.7	10.6	10.9	10.1	9.8	9.6	10.0
Sibley	11.4	12.0	11.9	12.2	11.9	11.5	11.0	11.2	11.0
Wright	11.2	11.7	12.1	12.3	12.2	11.9	11.7	11.5	11.8
Average, 9-county area	11.3	11.9	12.4	12.4	12.3	12.1	11.7	11.6	11.6
Average, 16-county area	11.6	12.2	12.8	12.8	12.7	12.6	12.2	12.2	12.2
State average	9.9	10.2	10.6	10.4	10.0	9.7	9.3	9.2	9.3
Difference between State average and average for:									
7-county area	+ 2.2	+ 2.5	+ 2.9	+ 3.2	+ 3.6	+ 3.9	+ 3.9	+ 4.1	+ 4.3
9-county area	+ 1.4	+ 1.6	+ 1.8	+ 2.0	+ 2.3	+ 2.4	+ 2.4	+ 2.4	+ 2.3
16-county area	+ 1.7	+ 1.9	+ 2.2	+ 2.4	+ 2.7	+ 2.9	+ 2.9	+ 3.0	+ 2.9

Compiled from data contained in annual State Farm Census.

of a dairy herd increased from 9.2 cows in 1936 to a maximum of 10.6 cows in 1944, and thereafter steadily declined in size to 9.2 cows in 1949. The herds in the 7-county fluid milkshed increased in size from 10.1 cows in 1935 to a level of 13.6 cows from 1945 through 1947. These herds decreased in size to 13.2 cows in 1948, but increased again to 13.6 cows by 1950.

The important shifts that have taken place are made more apparent by comparing the differences in the size of herds for the years between 1933 and 1950 as indicated in the lower section of table 17. During 1933 to 1935, for example, the 7-county fluid milkshed and the 9-county area both had dairy herds that were practically identical in size with the State average and with the remaining counties in the State. Since 1935 the herds in the two milkshed areas increased in size relative to the State average until by 1950 the 9-county area dairy farms averaged 2.3 more cows per herd and the 7-county fluid milkshed farms averaged 4.3 more milking cows per herd than the State average. When the 16 counties are considered as a unit, the dairy herds in 1950 contained about 3 more cows than the average-sized herd for the State. (See figure 5.) If the influence of the milkshed areas on the State average is eliminated by comparing the size of dairy herds in the milkshed proper with the size of herds in the counties of the State outside the two production areas, the shift is still more pronounced. Although the difference in size of herd between the milkshed areas and the remainder of the State was less than one cow in 1935, by 1949 farms in the milkshed proper averaged 4.72 more cows for each milking herd.

This increase in the proportion of the State's dairy cattle population that now is concentrated in the 16-county area surrounding the Twin City market, together with the greater increases in the average size of milking herd in the milkshed areas than in other areas of the State, suggest that the production of fluid milk for the Twin City market was relatively more profitable than in the remainder of the State. However, these trends probably were influenced by two other developments: (1) A growing disadvantage for dairymen who depended upon butter as an outlet for their production, which was reflected in declining dairy cattle numbers in other West North Central States as well as Minnesota, and (2) a stiffening of Grade A requirements in the fluid market, which had the effect of increasing the advantage of large herds over small herds.

Volume of Milk Shipped Per Producer

The long-range decrease in the number of producers supplying the fluid milk requirements of the Twin Cities has been offset to a considerable extent by increases in the volume of milk delivered by each shipper. The data previously presented indicate that these larger daily shipments of each producer are the result of larger herds in the last few years as well as sizable increases in the productivity per cow. The TCMPA has been the principal supplier of milk for the metropolitan consuming area, and its records supply basic data from which the trend in size of daily milk

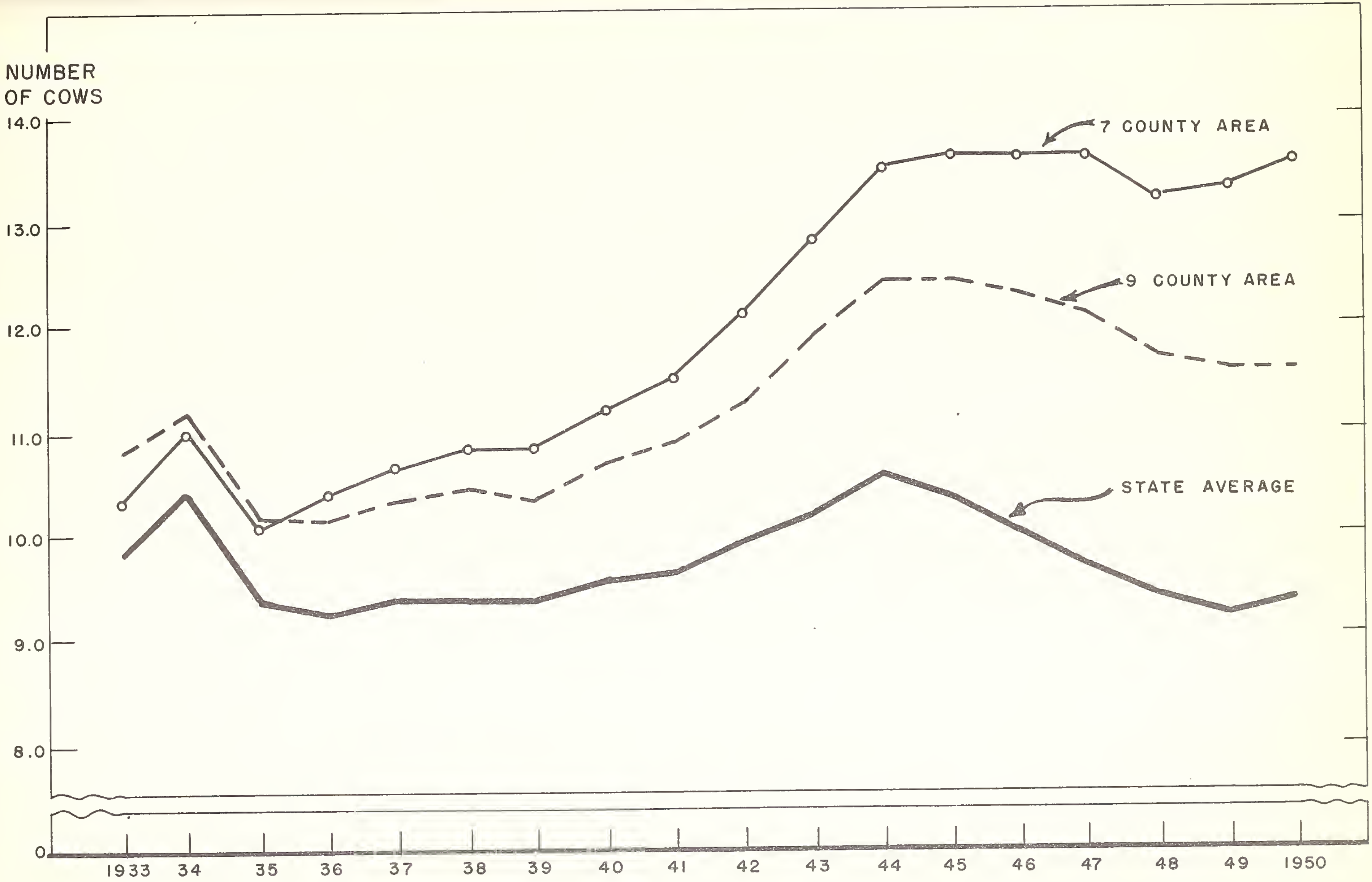

Figure 5. Average size of milking dairy herds in Minnesota and in areas contiguous to the Minneapolis-St. Paul marketing area, 1933-50.

shipments per producer in the Twin City market can be traced. These data are presented in table 14 and figure 6, and indicate the sizable increases in volume from 167 pounds of milk a day in 1929 to 349 pounds a day by 1950. Similar data are presented for cream shipments up to the time the association discontinued receiving cream in 1945. It is of some significance that the amount of milk shipped to the market by each producer showed such a consistent upward trend over such a span of years.

More detailed data for all types of producers are available for the period since 1946, and these indicate similar trends (see table 18). All producer shipments averaged 287 pounds per day during 1946, and were increased to 322 pounds per day in 1950. Some other significant trends are indicated in this table. For example, the TCMPA members ship significantly larger daily quantities of milk than do members of other producer cooperatives in the market, although this fact is not too readily apparent from comparing columns 1 and 4 of table 18 because the figures in column 1 contain, and thus are weighted by, those in column 4. To a considerable extent, this difference in member volume can be attributed to the fact that TCMPA members have specialized in fluid production for more than 30 years, and during that time they have been influenced by educational programs and price incentive. Most of the other producer cooperatives are relatively new in the Twin City market, and their memberships include smaller-scale producers who have not completely adjusted operations to a long-time share of the fluid milk market.

Another significant change is the increase in the size of daily milk shipments by farmers who are not members of any producers cooperative. As already noted, the number of these producers supplying the market has decreased sharply since the Federal order became operative in the Twin City market; those who have remained in the market make significantly larger shipments than most other producers. All nonmember producers shipped about the same daily volume as TCMPA and cooperative-member shippers in 1946, but in 1948, for example, they averaged 420 pounds a day, whereas all cooperative members shipped 296 pounds and TCMPA members shipped 311 pounds.

The largest daily shipments come from distributors' own farms and reflect the influence of greater specialization. In 1946 these farms shipped an average of 1,371 pounds of milk a day, in contrast to the market average of 287 pounds. By 1948 the respective volumes had increased to 1,778 and 301 pounds, possibly indicating a relatively greater response to higher fluid prices by the distributor-owned farms. In 1950 the respective volumes averaged 1,567 and 322 pounds. Available data do not indicate whether this increase in the average volume delivered from nonmember and distributor-owned farms was due to an increase in actual size of shipments from such producers, or whether it may be attributed to the fact that most of the small producers left the market and large shippers remained after 1946. In the latter case, the average would have increased even if producers merely had maintained shipments of the size they previously had delivered.

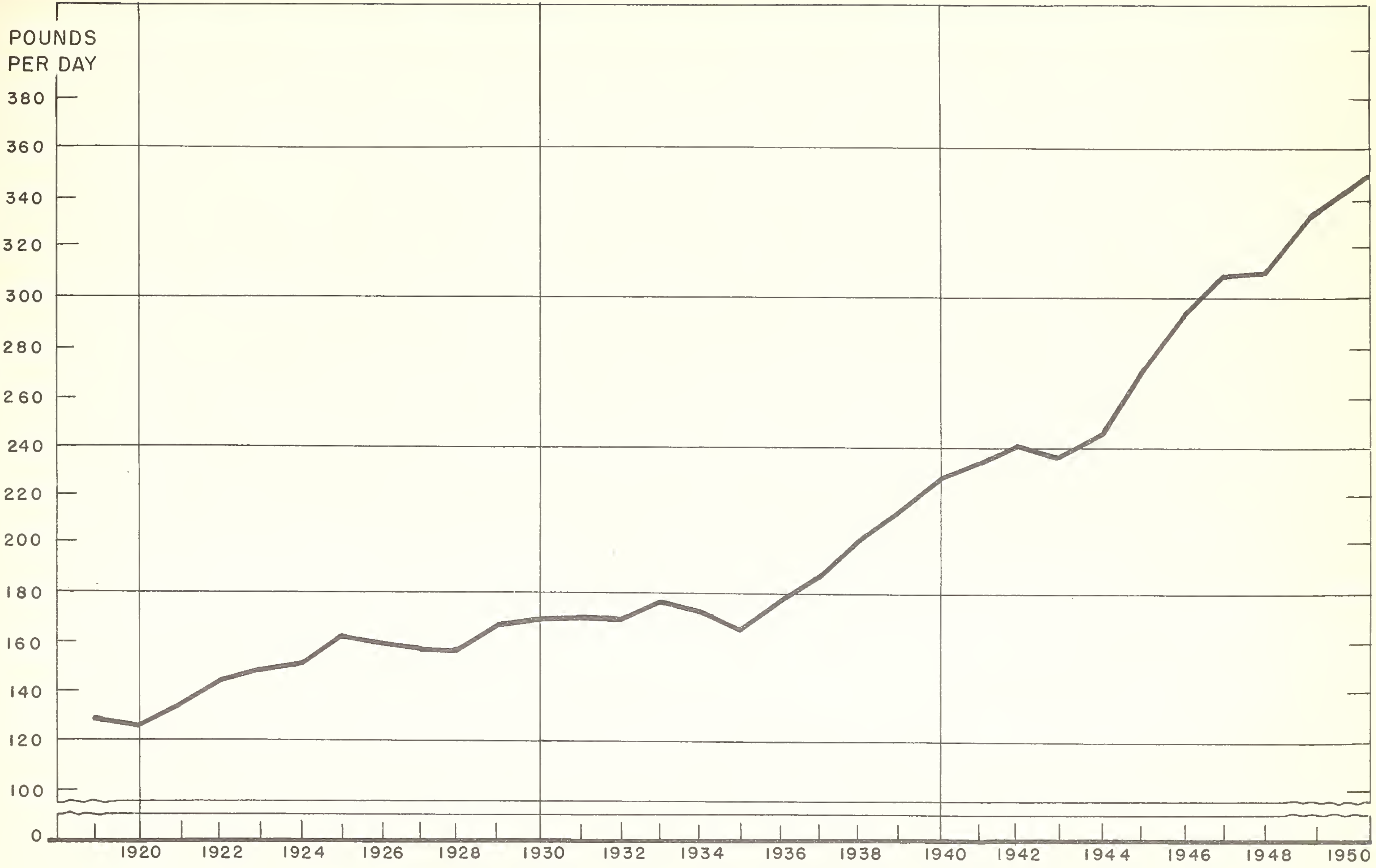

Figure 6. Average daily milk shipments per member-producer, TCMPA, annual, 1919-50.

Table 18.--Size of average daily deliveries per producer, by type of producer, by months, 1946-50

Year and month	All cooperative members	Distributors own farm	Nonmembers	TCMPA	All producers
	Pounds	Pounds	Pounds	Pounds	Pounds
1946:					
January	288	1,354	354	298	296
February	312	1,361	335	319	316
March	329	1,446	332	338	331
April	345	1,541	341	357	346
May	361	1,541	346	376	361
June	359	1,523	317	371	356
July	293	1,398	264	309	292
August	226	1,329	202	234	225
September	194	1,250	174	208	193
October	209	1,216	205	217	210
November	229	1,241	264	233	234
December	274	1,248	315	276	280
Average	285	1,371	286	295	287
1947:					
January	322	1,277	324	326	324
February	350	1,363	391	357	355
March	366	1,462	397	375	371
April	363	1,532	396	381	368
May	362	1,586	387	382	367
June	374	1,584	363	393	375
July	299	1,309	292	316	300
August	217	1,106	194	232	217
September	204	1,018	212	216	206
October	210	1,072	265	220	215
November	233	1,172	325	241	240
December	278	1,229	404	286	287
Average	299	1,309	329	310	303
1948:					
January	318	1,262	445	324	327
February	341	1,335	484	349	351
March	356	1,957	495	366	365
April	357	2,066	502	372	367
May	385	2,176	523	403	394
June	339	2,054	448	359	343
July	266	1,873	373	283	270
August	226	1,757	309	242	230
September	205	1,639	287	221	209
October	218	1,673	341	233	223
November	249	1,716	385	263	255
December	297	1,824	450	312	303
Average	296	1,778	420	311	301

Continued-

Table 18.--Size of average daily deliveries per producer, by type of producer, by months, 1946-50 -continued

Year and month	All cooperative members	Distributors own farm	Nonmembers	TCMPA	All producers
	Pounds	Pounds	Pounds	Pounds	Pounds
1949:					
January	339	1,749	500	355	346
February	364	1,469	479	380	369
March	386	1,620	501	408	391
April	392	1,679	620	416	398
May	404	1,738	616	429	410
June	362	1,576	631	388	368
July	274	1,331	427	304	279
August	234	1,407	371	259	238
September	208	1,327	295	232	211
October	221	1,313	486	241	224
November	258	1,298	508	278	261
December	315	1,322	576	339	318
Average	313	1,486	501	336	317
1950:					
January	352	1,585	614	376	355
February	384	1,612	680	411	387
March	404	1,636	732	439	407
April	402	1,632	765	437	406
May	385	1,573	765	426	388
June	380	1,468	764	417	384
July	292	1,482	715	323	296
August	230	1,501	638	259	234
September	216	1,486	585	235	220
October	229	1,470	558	253	230
November	259	1,638	547	285	263
December	289	1,718	591	333	306
Average	318	1,567	663	349	322

Compiled from data supplied by the Market Administrator.

Seasonality of Milk Production

An important basis for the different changes made in the pricing of Class I milk in the Twin City order has been the premise that the variable monthly prices established by the order would help correct the extreme seasonality in the production of milk--a serious problem to the market and to the TCMPA in particular. The problem is best illustrated by figure 7, in which the seasonal index of the average daily sales of pasteurized milk in Minneapolis is superimposed upon a seasonal index of the average amount of fluid milk shipped to the market each day by TCMPA member-producers. These data illustrate the wide contrast between the relatively constant rate at which fluid milk is consumed in the market during the year and the extreme variation in the rate at which milk is supplied the market during different seasons of the year. The burden of adjusting the supply of milk to the demand for milk historically has fallen upon the TCMPA, because of its position as the dominant supplier of milk to Twin City distributors. In fact, the ability of the association to continue in this role of dominant supplier will be influenced greatly by the degree to which it can correct the disparity between the amount of milk it sells and the amount of milk it receives from member-producers, particularly during the period from August through November.

The TCMPA has had to fill the demand for fluid milk in the late summer and early fall months by importing whole milk from Grade A plants in nearby Wisconsin and in Minnesota. Although this plan eased the problem, it has several weaknesses:

(1) It will work only so long as city health authorities permit the continued importation of "emergency" milk, considering the fact that the market is in a great surplus milk production area.

(2) The plan relies upon the willingness and availability of outlying plants to supply the milk only during the shortage months. Although this had never been a serious problem to the TCMPA or to the market, there is a tendency for such plants to want to continue serving the fluid market the remainder of the year. Their efforts to do this, or the threat to do this, disturbs existing market relationships, endangers the association's dominant position in the market, and weakens the association's bargaining position.

Characteristics of the Seasonality Pattern in the Twin City Market

Two characteristics distinguish the seasonality of milk production in the Twin City market from that experienced by other nearby metropolitan milk markets: (1) The degree of variation from season to season is greater in the local marketing area, and (2) the production of milk locally reaches a critical low in the late summer and early fall, whereas the more general experience is to have the seasonal low occur a month or two later.

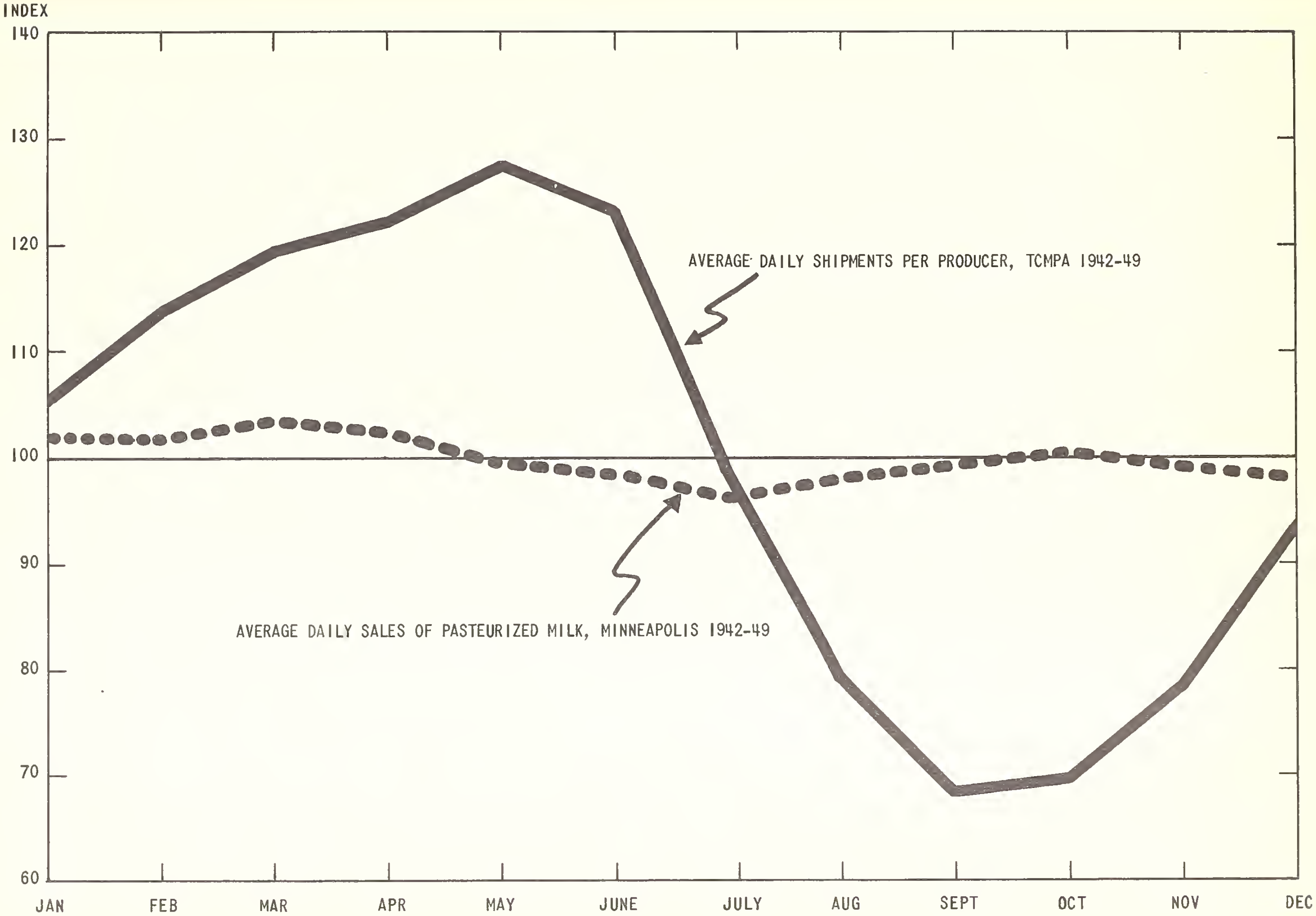

FIGURE 7. -- COMPARISON OF THE INDEX OF SEASONAL VARIATION IN THE PRODUCTION OF MILK, TWIN CITY MILK PRODUCERS ASSOCIATION, AND THE INDEX OF SEASONAL VARIATION IN THE CONSUMPTION OF PASTEURIZED MILK, MINNEAPOLIS, 1942-49

Data presented in table 19 illustrate the changes that have taken place in the seasonal pattern of production of TCMPA members since 1919. The 31-year period has been divided into four groups--1919-33 covers the period prior to Federal regulation, 1934-41 includes the period of regulation by licenses, 1942-46 covers the period of regulation by various wartime controls, and the period since 1946 covers the period of regulation by milk orders, from 1946 until the present time.

It is apparent that the degree of variation between the periods of low and high production has not decreased during the entire period of Federal regulation. In fact, the disparity in production between these two periods increased significantly during 1942-46, and it has not narrowed since that time. One change is taking place in the seasonal pattern, however,--the tendency of producers to ship a greater proportion of the year's total production during the first 5 months of the year.

Seasonal Variations among Different Groups of Producers

One result that is expected from a seasonal pricing program similar to that contained in the Twin City order is that producers will adjust production patterns to benefit from the higher prices provided for the seasonal shortage months. Another expected result is that dairy farms owned and managed by distributors will have less seasonal variation in the size of their milk deliveries than other dairy farms in the same market. In order to test these hypotheses, at least in an exploratory manner, the average daily deliveries of all producers in the Twin City market were broken down into the three component types--TCMPA member-producers, those producers who are not members of cooperatives, and the farms owned and managed by milk distributors (handlers). The size of the average daily deliveries of producers in each of these three groups was taken from data supplied by the market administrator for the years 1946-48, and a seasonal index was computed for each by use of the link-relative method.

It is apparent from the data presented in table 20 that each of these three groups of farms has widely divergent seasonal patterns. As might be expected, the distributors' own farms (not the farms of producer-distributors) experienced less variation in the size of milk shipments than any other group, fluctuating from 117 percent in May to 86 percent in September. The TCMPA member-producers experienced a much wider variation than distributor owned farms, varying from more than 127 percent in May down to slightly less than 70 percent in September, and nonmember producers experienced the greatest variation of all groups--a difference of 62 percent between a high point of 122 percent in April and a low of 60 percent in September. All groups had the lowest production during the month of September. TCMPA members and the distributors experienced similar and relatively sharp rates of increase (about 20 percent) from January through May, but the nonmember producers reached a much higher

Table 19.--Index of seasonal variation in the size of average daily milk shipments, Twin City Milk Producers Association, by months, for specified periods, 1919-49 1/

Month	1919-33	1934-41	1942-46	1947-49
January	103.5	103.4	104.8	107.0
February	109.5	109.9	113.0	115.3
March	112.0	114.8	118.8	121.3
April	110.7	116.2	121.6	123.4
May	123.0	126.1	127.6	127.7
June	125.0	124.2	125.2	119.4
July	103.1	99.5	101.6	94.0
August	86.1	84.4	80.8	76.0
September	76.7	76.6	68.2	69.0
October	76.7	75.8	68.8	71.3
November	81.2	79.0	77.4	80.3
December	92.5	90.1	92.2	95.3
Average	100.0	100.0	100.0	100.0

1/ Index computed as an average of ratios for each month in the different periods to a trend line determined by use of a 13-month moving average.

Computed from data supplied by the Twin City Milk Producers Association.

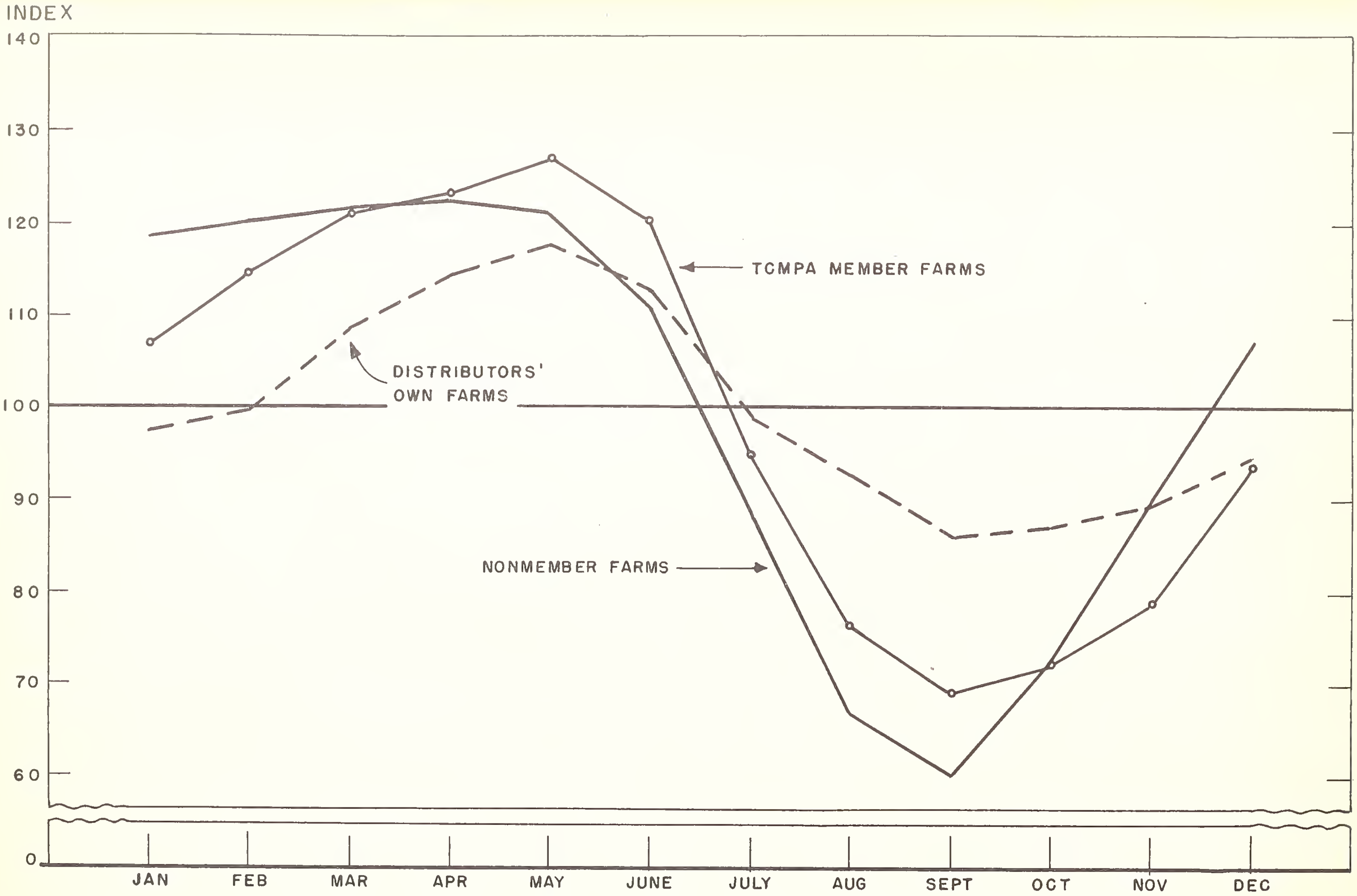

Figure 8. Comparison of index numbers of seasonal variation in milk production on farms of TCMPA member-producers, farms of producers not members of cooperative associations, and farms of distributors.

Table 20.--Index numbers of seasonal variation in milk production on farms of TCMPA member-producers, farms of producers not members of cooperative associations, and farms of distributors, for the period 1946-48

Month	Index of seasonal variation in production		
	TCMPA members	Nonmember producers	Distributors' own farms
January	107.0	113.9	97.0
February	114.7	120.2	99.8
March	120.8	121.1	108.3
April	122.7	122.4	113.7
May	127.6	121.6	117.4
June	120.5	110.8	113.0
July	95.4	88.1	98.8
August	76.4	67.1	93.0
September	69.4	60.2	86.3
October	72.3	72.2	87.9
November	79.2	90.0	89.9
December	94.0	107.4	94.9

Compiled from data supplied by the Market Administrator.

level of production by January and maintained it through the month of May. After May, however, all groups followed similar patterns of smaller shipments through September and increases after that time, except that the declines experienced by nonmember and TCMPA producers were much sharper than those of the distributors' own farms.

Changing Patterns of Milk Production Increases

The fact that the general pattern of seasonal milk production has been changing in the Twin City area coincident with a general trend toward increased milk production by each producer poses the question: How have the increases in production been distributed seasonally? In order to segregate and evaluate the increases in milk production that have taken place in the market between 1919 and 1950, this era was divided into four periods. An attempt has been made to determine the season in which the yearly increases in milk production since 1919 have occurred. Accordingly, a straight line trend was fitted to the average daily shipments of milk for each month of each period. The results are presented in table 21, and are designed to indicate the annual increases in size of each producer's average daily milk shipments by seasons for 1919-33, 1934-41, 1942-46, and 1947-50.

These data indicate that there are sharp differences in the extent to which farmers increased the size of their daily milk shipments, both between periods of years and between seasons within the period. TCMPA members increased their shipments most during the two periods since 1941. The period 1934-41 ranked third in size of increase. Expressed as pounds of milk, TCMPA member-producers shipped an average of 14.3 pounds more milk each year than in the preceding year during the postwar period of 1947-50. This compares with 14.0 pounds in 1942-46 and 10.2 pounds in 1934-41. By contrast, the increases during the long preregulation era of 1919-33 averaged only 3.3 pounds per year.

The distribution of the yearly increases between seasons is of still greater significance. During the period 1919-33, for example, the greatest increase took place during the winter season-January to March-(4.8 pounds a year), whereas the size of the shipments during the summer season-July to September-remained almost constant (increasing only 1.1 pounds per year). The spring and fall shipments increased at about the average rate for the period. The ranking among the seasons changed slightly during the next era of 1934-41, when the increases during the spring season of April-June equaled the sizable increase of the winter season. The most notable change that took place during the period of 1942-46 was the marked increase in the size of the milk shipments during the spring and summer seasons. The sharpest increase in size of shipments between 1947 and 1950 took place in the winter, when TCMPA members shipped an average of 20.3 pounds more each day than in the same season of the previous year. By contrast, their shipments during the critical summer season increased only 7.2 pounds.

Table 21.--Average annual increase in the size of average daily milk shipment per producer, Twin City Milk Producers Association, by months, quarters, and years, for specified periods, 1919-50 1/

Month	Average annual increase in pounds per day			
	1919-33	1934-41	1942-46	1947-50
	Pounds	Pounds	Pounds	Pounds
January	4.9	11.4	11.1	18.1
February	4.9	12.6	11.3	19.3
March	4.7	12.9	14.5	23.4
April	4.5	13.8	18.3	21.2
May	3.8	13.2	16.6	15.8
June	2.3	9.9	19.2	10.1
July	.7	7.8	18.8	4.2
August	.8	5.9	11.3	10.7
September	1.7	5.2	9.3	6.8
October	3.0	6.4	11.9	10.7
November	3.9	9.6	12.5	14.7
December	4.6	13.3	13.7	16.8
Quarterly average:				
Jan.-Mar.	4.8	12.3	12.3	20.3
Apr.-June	3.5	12.3	18.0	15.7
July-Sept.	1.1	6.3	13.1	7.2
Oct.-Dec.	3.8	9.8	12.7	14.1
Annual average	3.3	10.2	14.0	14.3

1/ Average annual increase computed by fitting a straight line trend to the size of the average daily milk shipment per producer for each month during each period of years.

Computed from data supplied by the Twin City Milk Producers Association.

These data indicate that TCMPA members have increased the size of their daily milk shipments to the fluid market, but the major part of the increases came during the seasons of the year when the association already had a problem of surplus milk. The association needs sizable increases in production during the summer season in particular. Except for a brief period between 1942 and 1946, however, the increases in the size of daily milk shipments during this season have been only a small fraction of the increases obtained during the other seasons of the year. The data in the table also permit a closer examination of these developments in terms of monthly changes.

Factors Influencing the Extent of Seasonal Variation in the Twin City Market

A comprehensive analysis of all the factors involved that influence and might correct the amount of seasonal variation of milk production in the local market is, of course, beyond the scope of this study. Certain geographical, farm management, and economic factors appear to be important determinants of this condition, however, and deserve mention. One of the more important influences is the variation in the type and quality of feeds available at different seasons of the year. The market is in a geographical (type-of-farming) area where the soil and climate are particularly suited to the growth of pastures and the production of forage crops and grains and where dairying generally has had a distinct comparative advantage relative to other agricultural enterprises. Under these conditions, it appears that the pastures provide abundant (and cheap) feed during May and June, and the farmers associate this with the conclusion that milk can be produced more cheaply during these months. The pastures begin to yield less nutrients by midsummer, however, and it is possible that the cows are underfed to a degree--at least enough to affect production adversely. Feed becomes more adequate when the cattle are housed for winter and fed silage, hay, and more substantial amounts of grain, and production per farm increases as a result.

Another important determinant is the manner in which the cow freshenings are distributed among the seasons of the year. The majority of local dairymen tend to have their cows freshen in the winter and early spring months, with very few freshenings in late summer and early fall. The decision of producers to maintain this seasonal pattern of freshenings is probably based upon several conditions, an important one being that the seasonal demands of other farm enterprises on the labor supply are already at a peak during the late summer months. Then, too, spring is the "normal" season for the freshening of cows, and it requires special effort and superior management to change this pattern.

The prices for milk and cream used in manufactured dairy products change less seasonally than do the prices for milk used in fluid products. Prices for fluid milk in the Twin City market have been rather closely related to the relatively uniform prices for manufacturing milk in the entire production area, and, as a result, reflect less variation between the seasons of short supply and surplus production than do most major fluid markets.

The TCMPA has recognized the wide seasonal variations in the size of producer shipments to the market and until 1950 it attempted to correct the situation principally by widening the price differential between milk used in fluid and manufacturing uses during the late summer and early fall months. This practice proved particularly unwise for the association in 1949, when wide differentials attracted outside milk.

Other factors also influence the extent of the seasonal variation, but many of them are probably beyond the practical control of the individual farmer. For example, weather conditions vary from season to season and from year to year, causing variations in the quantity and quality of pastures, hay, and grain crops.

Alteration of the Present Seasonal Pattern

Within the last year the TCMPA has made its most serious effort to correct the wide seasonal variations in the size of their producer-members milk shipments. An examination of the association's monthly news letters reveals clearly that the cooperative had long recognized the situation and asked producer-members to adjust their seasonal patterns of production. The ready availability of "emergency" milk, the willingness of the health department to admit such milk, and the willingness of other producer groups to ship TCMPA such milk only during the later summer and early fall months never made the problem particularly acute to the association before 1949. This procedure made it unnecessary for the association to admit additional producers to the association pool, and permitted it to maintain a higher blend price during the flush production months, when most of the association's milk was produced. This was not only a desirable situation from the standpoint of the TCMPA, but it was an easy alternative to forcing members to change their milk production practices.

Since 1949, however, the cooperatives that supplied TCMPA and the market with needed milk during the shortage months have begun to seek actively (and some have obtained) a share of the fluid market on a year-round basis. Under present operating practices in the market, these demands constitute a danger to the market position of the TCMPA and tend to lessen the stability of the fluid market as a whole. The local health ordinance is not a deterrent to the plans of the outlying plants, because they already are certified as Grade A outlets by the health authorities of Chicago and by the Wisconsin State Board of Health. Both of these authorities follow the ordinance and code recommended by the U. S. Public Health Service. Therefore, these plants are acceptable to the health authorities of the Twin City market.

The TCMPA has taken preliminary steps to correct the extreme seasonality of milk production among its own member-producers. Present plans call for the adoption of a base-surplus plan applicable to its membership, with the base period to cover the months of short supply, probably August through October. Such a plan could affect materially the level of prices received by individual producer-members of the organization, and could influence the uneven producers to adjust their seasonal patterns of production to conform more closely with the needs of the association.

Whether producers modify their production practices will depend in large measure upon what effects the program will have upon the costs and returns of producing more milk in the late summer and early fall months and less during the late winter and the spring months. Some adjustments in production can be made without incurring major increases in costs or substantial changes in farm management practices (providing better pastures during the summer months is an example), but whether such changes will be substantial enough to solve the association's problem remains to be seen. Some indications of the probable solution to the problem of how much adjustment in production practices is desirable for the market and for the individual dairy enterprise could probably be obtained from a comprehensive analysis which would balance the costs involved in altering the traditional production pattern against the increases in producer returns that might result from a more even production pattern. Such a study should incorporate the work and findings of dairy production specialists, farm management men, and dairy marketing and pricing specialists, for the problem encompasses delicate interrelationships between all three fields.

Utilization of Milk

Utilization of Milk, 1946-50

Between 45 and 55 percent of the milk receipts of the Twin City market are annually consumed as fluid milk; another 8 percent is used in such other fluid products as skim milk, buttermilk, flavored milk drinks, and cream; and the remainder is used in such manufactured dairy products as condensed whole and skim milk, butter, ice cream, cheese, casein, powdered whole milk and nonfat dry milk solids. A detailed analysis of the amount of milk and butterfat used in each type of Class I and Class II product for the 5 years from 1946 through 1950 is shown in table 22; the same data, expressed as a percentage of total receipts, are shown in table 23. The table of percentages should be used in conjunction with the actual usage in pounds to get the most accurate picture of milk utilization over the entire period, because total receipts varied by as much as 160 million pounds between one year and another.

Total receipts were at their highest level (more than 790 million pounds) in 1946, then dropped sharply to 652 million in 1947 and to

Table 22.--Utilization of all milk, cream, and skim milk receipts, including producer-handler production, Minneapolis-St. Paul marketing area, 1946-50

Class and use	1946		1947		1948	
	Product	Butterfat	Product	Butterfat	Product	Butterfat
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Class I products:						
Fluid milk sales	353,270,982	12,757,197	341,632,162	12,247,449	340,373,152	12,213,706
Skim milk sales	2,542,685		3,258,229		3,561,586	
Buttermilk sales	5,322,780	32,005	4,991,399	24,078	6,017,268	28,615
Flavored drink sales	8,259,375	120,133	7,488,096	92,562	7,474,741	103,879
All cream sales	25,257,731	5,354,871	24,481,715	4,794,790	23,078,046	4,425,191
Specialties			13,270	497	132,627	871
Out-of-area sales	18,534,775	647,042	5,696,629	199,783	5,189,919	182,594
Inventory variation	294,947	1,937	49,623	5,205	1/ (82,538)	1/ (3,353)
Plant loss	5,498,839	437,026	3,357,713	465,226	3,783,447	408,787
Total Class I usage	418,982,114	19,350,211	390,968,836	17,829,590	389,528,248	17,360,290
Class II products:						
Butter	7,892,383	2,567,317	11,546,810	3,583,572	7,432,821	2,659,997
Cheese	21,469,327	490,793	6,628,093	267,583	4,937,861	164,656
Ice cream mix	13,546,376	2,598,880	13,473,757	2,829,347	11,841,372	2,643,950
Condensed whole milk	34,679,586	1,011,448	31,218,626	1,000,754	35,817,701	1,080,723
Condensed skim milk	72,427,262		22,773,265		16,265,693	
Nonfat dry milk solids	180,516,004		161,229,993		153,558,140	
Whole milk powder	19,663,363	300,834				
Casein			9,198,600		7,237,607	
Animal feed	1,376,324	3,698	1,548,593	6,564	1,784,349	5,029
Miscellaneous uses	11,857,131	1,061,041	1,502,779	215,315	51,921	6,474
Out-of-area sales	6,311,817	1,951,881	898,830	367,019	182,343	90,903
Inventory variation	123,031	1/ (23,177)	1/(92,105)	18,551	245,192	119,735
Plant loss	1,803,003	79,899	1,408,842	110,734	1,260,122	157,498
Total Class II usage	371,665,607	10,042,614	261,336,083	8,399,439	240,615,122	6,928,965
Total market receipts	790,647,721	29,392,825	652,304,919	26,229,029	630,143,380	2/24,289,255

See footnotes at end of table.

Continued-

Table 22.--Utilization of all milk, cream, and skim milk receipts, including producer-handler production, Minneapolis-St. Paul marketing area, 1946-50 -continued

Class and use	1949		1950	
	Product	Butterfat	Product	Butterfat
	Pounds	Pounds	Pounds	Pounds
Class I products:				
Fluid milk sales	346,957,436	12,405,009	359,185,057	12,837,423
Skim milk sales	3,840,427		4,639,277	
Buttermilk sales	7,315,000	30,462	6,965,782	21,592
Flavored drink sales	7,709,214	76,941	8,482,500	141,722
All cream sales	22,853,123	4,344,067	22,659,019	4,259,167
Specialties	1,405,598	90,024	2,461,615	171,233
Out-of-area sales	2,081,627	71,928	837,927	28,318
Inventory variation	1/ (1,351)	5,541	426,851	13,027
Plant loss	5,060,872	543,563	4,373,148	415,183
Total Class I usage	397,221,946	17,567,535	410,031,176	17,887,665
Class II products:				
Butter	11,810,481	5,170,029	12,569,187	5,852,222
Cheese	2,555,114	66,207	735,018	32,474
Ice cream mix	10,747,118	2,334,186	9,421,366	2,136,243
Condensed whole milk	25,509,089	524,373	22,290,621	483,901
Condensed skim milk	24,157,955		11,277,501	
Nonfat dry milk solids	187,053,856		225,284,925	
Whole milk powder				
Casein	19,974,441		17,082,250	
Animal feed	2,172,635	11,408	3,656,594	14,055
Miscellaneous uses	34,756	6,827	168,892	24,408
Out-of-area sales	218,168	107,199	1,018,979	372,016
Inventory variation	1/(211,023)	1/(139,222)	1/(9,933)	1/(4,048)
Plant loss	975,226	72,416	839,349	47,538
Total Class II usage	284,997,816	8,153,423	304,334,749	8,958,809
Total market receipts	682,219,762	25,720,958	714,365,925	26,846,474

1/ Indicates minus.
2/ Butterfat adjusted 1 pound to agree with Product Report Summary for 1948.

Compiled from records of the Market Administrator.

Table 23.--Utilization of all milk receipts (product pounds), including producer-handler production, expressed as a percentage of total receipts, Minneapolis-St. Paul marketing area, 1946-50

Class and Usage	1946	1947	1948	1949	1950
	Percent	Percent	Percent	Percent	Percent
Class I products:					
Fluid milk sales	44.68	52.37	54.02	50.86	50.28
Skim milk sales	.32	.50	.56	.56	.68
Buttermilk sales	.67	.77	.96	1.07	.98
Flavored drink sales	1.04	1.15	1.19	1.13	1.18
All cream sales	3.20	3.75	3.66	3.35	3.17
Specialties	--	.00	.02	.21	.30
Out-of-area sales	2.34	.87	.82	.30	.12
Inventory variation	.04	.01	(.01)	.00	.06
Plant loss	.70	.52	.60	.74	.63
Total Class I usage	52.99	59.94	61.82	58.22	57.40
Class II products:					
Butter	1.00	1.77	1.18	1.73	1.77
Cheese	2.72	1.01	.78	.37	.10
Ice cream mix	1.71	2.07	1.88	1.58	1.32
Condensed whole milk	4.39	4.78	5.68	3.74	3.12
Condensed skim milk	9.16	3.49	2.58	3.54	1.69
Nonfat dry milk solids	22.83	24.72	24.37	27.42	31.60
Whole milk powder	2.49	--	--	--	--
Casein	--	1.41	1.15	2.93	2.22
Animal feed	.17	.24	.28	.32	.49
Other uses	1.50	.23	.01	.01	.02
Out-of-area sales	.80	.14	.03	.03	.15
Inventory variation	.01	(.01)	.04	(.03)	.01
Plant loss	.23	.21	.20	.14	.11
Total Class II usage	47.01	40.06	38.18	41.78	42.60
Total market receipts	100.00	100.00	100.00	100.00	100.00

Compiled from records of the Market Administrator.

630 million in 1948. The increase to 682 million pounds during 1949 and to 714 million pounds in 1950 still left the market with 76 million pounds of milk less than it received during 1946. The total amount of receipts used as Class I followed the same general pattern as production by reaching an all time high in 1946, declining rather sharply in 1947 and mildly in 1947, and increasing in 1949 and 1950.

Fluid milk sales totaled 353 million pounds in 1946, fell to slightly more than 341 and 340 million pounds in 1947 and 1948, and increased thereafter to 359 million pounds in 1950. The same data expressed in percentages do not reveal this shift in consumption so clearly because of the wide variations in total production upon which the percentages are based. Flavored milk drinks and buttermilk sales followed the same general consumption pattern as fluid milk, whereas skim milk sales increased more than 80 percent (from about 2½ million pounds in 1946 to 4 2/3 million pounds in 1950) during the 5-year period.

Total pounds of cream sold in the Twin Cities sales area have decreased each year from their all-time high of 25 1/4 million pounds in 1946 to 22 2/3 million pounds in 1950. Plant losses and sales to other consumption areas more than 100 miles from the Twin Cities account for the remaining Class I usage. A very significant shift has taken place in this latter item, as is indicated in table 22. During and immediately after the war, Minnesota creameries and distributors shipped large quantities of fluid milk and cream to Army camps and to large consuming centers in the eastern and southern part of the United States; the importance and subsequent decline of this fluid milk volume supplied by handlers under the order are indicated by the fact that exports dropped from 18½ million pounds in 1946 to 5.7 million in 1947, and then to 5.2 million in 1948, to 2 million pounds in 1949 and to only 838 thousand pounds in 1950.

Cream is classified as a Class II product when shipped out of the area. Its volume likewise decreased from 6.3 million pounds in 1946 to only 182 thousand in 1948. Out-of-area cream shipments have since increased to 218 thousand pounds in 1949 and more than 1 million pounds in 1950. This decline in the importance of handlers under the order as suppliers of milk for out-of-area sales is attributable to several factors: (1) An increase in milk production in those areas; (2) a decrease in fluid sales coincident with the closing down of war plants and Army camps (with a resultant effect on producer prices); (3) a related decision of health authorities in many of those areas to reestablish prewar standards for milk supplies; and (4) a provision of the local order which classified milk shipments to places beyond 100 miles of the Twin Cities as Class I milk -- thereby forcing several potential handlers to forsake the Twin City market in order to remain in a more effective competitive relationship with outlying dealers in supplying out-of-area markets.

The remaining 38 to 47 percent of the market receipts were utilized in Class II products, of which powdered and condensed milks were of the greatest importance. Powdered milks absorbed 24 to 31 percent of total market receipts in each of the 5 years. The shift to nonfat dry milk solids as the principal outlet for Class II milk is indicated by the fact that utilization of Class II milk for that outlet steadily increased from 48.6 percent in 1946 to more than 74 percent in 1950. Condensed whole and skim milks were the next most important outlets for surplus production in the Twin City market, and accounted for 107 million pounds of surplus milk in 1946 and about 50 million pounds a year during the years 1947 through 1949. Only 34 million pounds were used in these products during 1950. Ice cream has absorbed fewer pounds and a smaller percentage of market receipts in the latter years; it accounted for about 11 million pounds in 1948 and 1949 and 9 million pounds in 1950. Cheese production in the market has taken a precipitous drop; the milk so used decreased from 21½ million pounds in 1946 to a mere 735 thousand pounds in 1950. Butter production has varied and has absorbed between 7½ to 12½ million pounds (1 to 1.8 percent) of total receipts, and the remaining production was used for casein and animal feed.

TCMPA Utilization of Whole Milk, 1926-50

A long-run analysis of the utilization of milk shipped into the Twin City fluid milkshed is made possible by data from the TCMPA presented in tables 11, 24, and 25. The data in table 11 indicate the increase in the volume of milk handled by the association since 1920 and the proportion of this volume that was purchased by distributors for sale in the market as fluid milk. Since 1923 the trend has been a slight general increase in total annual sales of fluid milk, although beginning in 1943 and continuing through 1946 the amount of milk sold as fluid increased rather sharply. A decrease in such sales in 1947 has been offset by increases in 1948, 1949, and 1950. It is of particular interest that until 1943 the proportion of milk diverted to uses other than fluid remained about the same. The general increase in the amount of milk sold as fluid had been matched by proportionally greater increases in the total amount of milk produced. This is borne out by the fact that during the entire period between 1927 and 1943, except for 1 year, the association was unable to dispose of more than one-half of its volume as fluid milk. In 1943 the proportion of milk disposed of as fluid by the association increased sharply to 55.5 percent, and has remained above that level since that time. These data again emphasize the need for extensive manufacturing facilities and the gains which would accrue to the market as a whole and to the cooperative if the extreme seasonality of production could be modified to conform more closely to the consumption pattern of the market.

Table 24 and table 25 present important data for the fiscal years ending September 30 that reflect the way in which the association has met the problem of disposing of its whole milk receipts. The largest proportion of milk is either sold to distributors as fluid or separated into sweet cream and skim milk. The sweet cream is sold to distributors or used for the manufacture of butter. Since 1931, at least 93 percent

Table 24.--Utilization of whole milk, Twin City Milk Producers Association, 1926-50 1/

Year	Fluid milk	Separated	Cheese	Condensed	Ice cream	Sold to manufacturers	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
1926	149,757,143	126,360,131	18,575,060	6,337,719	----	----	301,070,053
1927	152,290,269	126,978,294	9,119,364	7,702,348	78,852	----	296,169,127
1928	153,858,462	133,753,710	16,754,447	7,267,540	76,301	----	311,710,460
1929	158,317,529	145,159,513	15,176,134	20,371,623	71,674	----	339,096,473
1930	161,947,566	161,939,290	13,513,861	30,222,614	80,404	----	367,703,735
1931	158,120,382	169,198,201	13,366,860	19,550,525	66,661	----	360,302,629
1932	156,888,039	197,120,590	6,958,562	7,936,351	76,425	----	368,979,967
1933	171,095,625	196,413,133	4,540,000	1,806,446	67,785	----	373,922,989
1934	169,971,672	206,179,573	5,014,922	3,132,065	65,999	----	384,364,231
1935	172,871,117	157,762,570	2,928,768	9,333,850	74,955	5,981,004	348,952,264
1936	180,682,644	174,039,945	2,720,781	11,473,800	83,318	12,404,871	381,405,359
1937	185,526,222	186,537,350	3,792,120	11,557,857	84,639	23,067	387,521,255
1938	182,026,723	219,354,272	4,847,716	8,489,405	86,772	----	414,804,888
1939	186,690,956	209,547,079	4,394,676	9,692,585	90,865	----	410,416,161
1940	184,901,560	225,846,933	1,652,077	16,222,916	75,927	----	428,699,413
1941	189,519,190	238,072,112	1,339,321	15,497,511	76,353	3,346,975	447,851,462
1942	197,071,015	230,868,002	4,288,703	14,062,252	73,877	1,364,048	447,727,897
1943	242,501,476	188,035,914	337,316	26,161,120	82,585	----	457,118,411
1944	262,011,629	178,398,300	----	18,117,965	93,531	2/ 678,037	459,299,462
1945	281,024,168	194,672,916	----	11,877,935	78,514	2/ 395,474	488,049,007
1946	300,984,738	199,918,114	----	31,090,987	77,398	2/ 336,178	532,407,415
1947	286,538,119	216,342,269	----	14,098,575	130,157	2/ 264,400	517,373,520
1948	296,568,354	188,819,332	----	19,076,731	93,210	----	504,557,627
1949	305,753,261	228,174,595	----	9,606,320	84,655	3/ 12,769	543,631,600
1950	320,580,899	228,873,941	----	8,794,242	88,351	----	558,337,433

1/ Year ending September 30.
2/ Standardizing Cream.
3/ "Other Uses."

Compiled from records of Twin City Milk Producers Association.

Table 25.--Percentage utilization of whole milk, Twin City Milk Producers Association, 1926-50 [1]

Year	Fluid milk	Separated	Cheese	Condensed	Ice Cream	Sold to manufacturers
	Percent	Percent	Percent	Percent	Percent	Percent
1926	49.7	42.0	6.2	2.1	-	-
1927	51.4	42.9	3.1	2.6	[2]	-
1928	49.4	42.9	5.4	2.3	[2]	-
1929	46.7	42.8	4.5	6.0	[2]	-
1930	44.1	44.0	3.7	8.2	[2]	-
1931	43.9	47.0	3.7	5.4	[2]	-
1932	42.5	53.4	1.9	2.2	[2]	-
1933	45.8	52.5	1.2	0.5	[2]	-
1934	44.2	53.7	1.3	0.8	[2]	-
1935	49.6	45.2	0.8	2.7	[2]	1.7
1936	47.4	45.6	0.7	3.0	[2]	3.3
1937	47.9	48.1	1.0	3.0	[2]	[2]
1938	43.9	52.9	1.2	2.0	[2]	-
1939	45.5	51.0	1.1	2.4	[2]	-
1940	43.1	52.7	0.4	3.8	[2]	-
1941	42.3	53.2	0.3	3.5	[2]	.7
1942	44.0	51.6	1.0	3.1	[2]	.3
1943	53.1	41.1	0.1	5.7	[2]	-
1944	57.1	38.8	-	3.9	[2]	[3] .2
1945	57.6	39.9	-	2.4	[2]	[3] .1
1946	56.5	37.6	-	5.8	[2]	[3] .1
1947	55.4	41.8	-	2.7	[2]	[3] .1
1948	58.8	37.4	-	3.8	[2]	-
1949	56.2	42.0	-	1.8	[2]	[2]
1950	57.4	41.0	-	1.6	[2]	[2]

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[1] Year ending September 30.

[2] Less than one-tenth of 1 percent.

[3] Standardizing cream.

Compiled from records of Twin City Milk Producers Association.

of all the whole milk handled has gone into these two uses. Cheese steadily declined in importance as an outlet for surplus whole milk after 1926, until in 1943 the association discontinued manufacturing the product. The amount and proportion of milk used for condensed whole milk has varied quite widely since 1926, and ice cream has continued to be a relatively constant but less important outlet.

TCMPA Utilization of Skim Milk, 1926-50

The TCMPA also has a problem in utilizing the large amount of skim milk that results from the separation of whole milk to get sweet cream. The data in table 26 and table 27 indicate the uses made of this skim milk by the association. In general, the skim milk not sold in a fluid form to distributors, producers, or special users has gone into such products as casein, condensed skim milk and nonfat dry milk solids. The milk sold in fluid form to distributors generally has comprised about 15 percent of total supplies between 1926 and 1950, the sales to producers and special users becoming unimportant in the latter years. Casein was the most important outlet in 1926, but after 1930 it ceased to be of great importance. Since 1942, in fact, the association has not manufactured any casein. Although condensed milk has continued to be an important outlet for skim milk to date, the most significant trend in the utilization of skim milk has been the increased amounts of it diverted to the manufacture of powder. For each year since 1942, for example, more than 60 percent of this milk has been manufactured into powder form; the 1944 usage required more than 71 percent of the surplus skim milk.

Per Capita Consumption of Fluid Milk and Fluid Milk Products

The milk usage and classification data contained in handlers' reports to the market administrator provide for the first time accurate information as to the amount of fluid milk and milk products consumed each month in the marketing area. Used in conjunction with population data obtained during the 1950 census of population, it is possible to derive an accurate estimate of the per capita consumption of Class I products in the Twin Cities during the first 6 months of 1950.

The per capita consumption data for Minneapolis and for St. Paul are presented in table 28. These amounts were determined by:

(1) Calculating the amount of each product sold by each handler in each city (together with its suburbs) during the months of January through June 1950.

(2) Subtracting the amount of each product sold outside the marketing areas but included in the market administrator's reports as having been sold within 100 miles of the Twin Cities.

(3) Allocating between the two cities the sales of producer-handlers not included in the published reports of the market administrator.

Table 26.--Utilization of skim milk, Twin City Milk Producers Association, 1926-50 1/

Year	Condensed	Powdered	Casein	Sold to distributors	Sold to producers	Miscellaneous & special uses	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
1926	15,891,381	15,317,203	32,675,487	15,901,480	13,128,333	17,919,988	110,833,872
1927	18,490,224	29,502,672	25,561,948	19,797,175	8,768,978	5,713,004	107,834,001
1928	29,039,378	37,682,729	13,565,780	22,586,680	5,586,299	4,206,090	112,666,956
1929	31,839,590	42,833,912	16,623,166	20,857,541	3,145,266	3,751,240	119,050,715
1930	37,614,150	60,355,143	14,563,763	19,017,531	2,909,689	296,912	134,757,188
1931	31,901,581	80,787,839	2,605,139	18,789,693	6,442,767	70,200	140,597,219
1932	33,764,739	101,512,114	10,843,234	18,404,411	4,375,523	603,049	169,503,070
1933	35,958,419	112,247,587	3,576,178	14,886,315	2,403,208	4,956	169,076,663
1934	23,376,847	117,082,886	10,490,123	21,852,014	4,953,137	37,479	177,792,486
1935	28,570,552	74,696,743	3,774,387	22,767,989	6,262,511	23,644	136,095,826
1936	29,012,513	95,606,117	2,264,823	23,000,173	2,027,220	765,474	152,676,320
1937	33,936,522	86,126,891	13,537,473	25,912,026	3,185,790	179,603	162,878,305
1938	32,229,497	119,605,499	10,516,096	25,681,616	4,930,949	77,759	193,041,416
1939	38,903,202	104,654,300	6,741,088	25,728,643	7,021,509	32,976	183,081,718
1940	42,386,199	117,704,384	5,226,731	29,832,772	2,801,937	32,101	197,984,124
1941	39,780,820	123,852,168	4,563,496	39,119,162	1,698,089	16,789	209,030,524
1942	49,131,317	141,889,887	1,618,849	20,100,569	385,846	16,204	213,142,672
1943	33,625,500	112,808,017	----	26,307,550	220,618	208,683	173,170,368
1944	15,223,236	108,589,893	----	27,062,185	160,520	239,223	151,275,057
1945	25,700,447	113,850,961	----	25,032,587	103,857	399,869	165,087,721
1946	21,984,404	115,949,240	----	30,669,305	86,855	884,027	169,573,831
1947	22,204,810	126,121,266	----	36,143,422	128,686	813,934	185,412,118
1948	34,103,973	99,813,625	----	28,554,503	448,067	869,181	163,789,349
1949	27,908,930	128,819,575	----	32,266,529	416,598	2/ 11,214,997	200,626,629
1950	26,350,841	131,033,490	----	34,183,170	332,288	3/ 9,361,502	201,261,291

1/ Year ending September 30.
2/ Includes 10,657,018 pounds sold for manufacturing.
3/ Includes 8,854,350 pounds sold for manufacturing.

Compiled from records of Twin City Milk Producers Association.

Table 27.--Utilization of skim milk, Twin City Milk Producers Association, 1926-50 1/

Year	Condensed	Powdered	Casein	Sold to Distributors	Sold to Producers	Miscellaneous & Special Uses
	Percent	Percent	Percent	Percent	Percent	Percent
1926	14.3	13.8	29.5	14.4	11.8	16.2
1927	17.1	27.4	23.7	18.4	8.1	5.3
1928	25.8	33.4	12.0	20.1	5.0	3.7
1929	26.7	36.0	14.0	17.5	2.6	3.2
1930	27.9	44.8	10.8	14.1	2.2	.2
1931	22.7	57.5	1.8	13.4	4.6	2/
1932	19.9	59.9	6.4	10.9	2.6	.3
1933	21.3	66.4	2.1	8.8	1.4	2/
1934	13.1	65.9	5.9	12.3	2.8	2/
1935	21.0	54.9	2.8	16.7	4.6	2/
1936	19.0	62.6	1.5	15.1	1.3	.5
1937	20.8	52.9	8.3	15.9	2.0	.1
1938	16.7	62.0	5.4	13.3	2.6	2/
1939	21.2	57.2	3.7	14.1	3.8	2/
1940	21.4	59.5	2.6	15.1	1.4	2/
1941	19.0	59.3	2.2	18.7	.8	2/
1942	23.0	66.6	.8	9.4	.2	2/
1943	19.4	65.2	-	15.2	.1	.1
1944	10.1	71.8	-	17.9	.1	.1
1945	15.6	69.0	-	15.2	2/	.2
1946	13.0	68.4	-	18.1	2/	.5
1947	12.0	68.0	-	19.5	.1	.4
1948	20.8	61.0	-	17.4	.3	.5
1949	13.9	64.2	-	16.1	.2	3/5.6
1950	13.1	65.1	-	17.0	.2	4/4.6

1/ Year ending September 30.
2/ Less than one-tenth of 1 percent.
3/ Includes 5.3 percent sold for manufacturing.
4/ Includes 4.4 percent sold for manufacturing.

Compiled from records of the Twin City Milk Producers Association.

Table 28.--Estimated per capita consumption of fluid milk and fluid (Class I) products, Minneapolis-St. Paul marketing area, January-June 1950

Product	Per capita consumption of Class I products			
	Six-month period		Daily average	
	Mpls.	St. Paul	Mpls.	St. Paul
	Pounds	Pounds	Pounds	Pounds
Whole milk	166.7763	154.2632	0.9214	0.8523
Skim milk	2.6394	3.0145	.0146	.0167
Buttermilk	3.8862	2.1063	.0215	.0116
Flavored milk	3.8866	3.5260	.0215	.0195
Cream (6-15 percent)	6.1809	1.0678	.0341	.0059
Cream (16-29 percent)	3.5397	5.3907	.0195	.0297
Cream (30 percent or more)	2.4976	1.0944	.0138	.0060
Soured cream	.0733	.0686	.0004	.0004
Specialties	.3202	.2669	.0018	.0015
Cream for candy	.1075	---	.0006	---
Total	189.9077	170.7984	1.0492	0.9436

(4) Calculating the exact population in each city and its suburbs on April 1, 1950, from the detailed data for each minor civil subdivision supplied by the U. S. Bureau of the Census. Since April 1 is the midpoint of the 6 months period of January through June, it is assumed that the census count represents the average population consuming fluid milk and its products during the period under consideration.

(5) Determining the average amount of each product consumed by each person in each city during the period January through June 1950.

(6) Dividing the latter amount by the number of days (181) between January 1 and June 30, 1950.

The results of this analysis show that on a per capita basis Twin City residents consume relatively large quantities of milk and milk products. Minneapolis residents consumed approximately 1.05 pounds of Class I products each day as compared with 0.94 of a pound a day for St. Paul residents. Expressed in another way, each Minneapolis resident used about 190 pounds of Class I products and each St. Paul resident used about 171 pounds of the same products during the 181-day period under consideration.

There also were some significant differences between the two cities in the type of products consumed. Minneapolis consumers used approximately 167 pounds of fluid milk as compared with 154 pounds for St. Paul; they also used slightly more of the skim-milk drinks, such as skim milk, buttermilk, and flavored milk. More significant perhaps is the difference in the amount and kinds of cream purchased. Minneapolis residents consumed a total of 12.6 pounds of cream per capita during the 181-day period, whereas St. Paul residents consumed 7.9 pounds--a difference of 4.7 pounds per capita. Two-thirds of the cream sold in St. Paul contained from 16 to 29 percent butterfat. Minneapolis consumers, on the other hand, purchased nearly twice as much light cream (testing from 6 to 15 percent butterfat) as any other type of cream.

Producers' Prices for Milk

Prices for Class I Milk

The prices paid by Twin City distributors for producer milk used for fluid purposes are among the lowest paid by distributors in metropolitan centers in the United States. Data presented in the second section of this report indicate the principal reason for this low price structure for fluid milk--the location of the two cities in the midst of the principal surplus dairy production area in the United States. The amount of milk used for fluid purposes in the metropolitan area is so small as compared with the total amount of milk produced in the region, that the value of milk used in manufactured dairy products is, of necessity, the principal determinant of the level of producer prices for fluid milk.

The classification of milk into Class I and Class II did not become effective until the advent of Order No. 73 in November 1945. However, the price paid TCMPA by distributors was essentially the price for what is now classified as Class I milk, because the TCMPA processed all the surplus milk and supplied distributors only with milk used for fluid purposes.

The average price paid for Class I milk during each year from 1929 through 1950 is included in table 29. Also included in the table are data that indicate an approximation of the value of milk based upon the price of butter in New York, and the prices paid for milk used by a condensery in the area. The distributors' paying price maintained a fairly uniform absolute relationship to the other prices, except for the early 1930's and for the period since 1946. The relatively low level of prices in the Twin City market during 1932, and particularly 1933, was a result of the general economic depression and the local milk price war of that period; the higher level of fluid prices relative to manufacturing values, and to condensery prices in particular, since 1946 is a result of the wider seasonal Class I differentials established by Order No. 73. These wider differentials were requested and granted on the basis that they were necessary to induce enough producers to qualify for the sale of Grade A milk and thereby to insure an adequate supply for the marketing area.

Other data indicate that the Class I price for the Twin City market during the years 1947 to 1950 averaged 94 cents per hundredweight more than the prices paid by Minnesota creameries for milk used in butter and creamery byproducts and 92 cents per hundredweight more than the prices paid by Minnesota cheese factories for milk used for American cheese. The spread between Class I and Class II prices was widened unduly in 1948 (as reflected in the 1949 prices) by amendments to Order No. 73; a more normal spread was achieved in 1950 by again amending the order.

Prices for Class II Milk

In an effort to evaluate the efficacy of the Class II formula in the Twin City order, four empirical approaches were taken.

The first approach was a comparison of the prices established for Class II milk by Order No. 73 and the prices paid by Minnesota creameries for manufacturing milk used in butter and creamery byproducts. This comparison seems valid because the Class II formula uses factors relating to butter-powder operations. Comparisons are also made with manufacturing milk used in American cheese and by the condensery located at Northfield, Minn. These data are presented in table 30, and indicate that except for the prices paid by the condensery in 1947, the Class II price established by the Twin City order has exceeded the prices paid for manufacturing milk by Minnesota plants by amounts that varied from 10 to 31 cents per hundredweight.

Table 29.--Distributors' average paying price and the TCMPA blend price to producers per hundredweight of 3.5 percent milk, compared with rate based on average price of 93-score butter in New York and the prices reported paid farmers by the condensery at Northfield, Minn., 1929-50

Year	Average price per hundredweight			Rate based on 93-score butter at New York 1/	Amount distributors' price exceeded		Amount TCMPA blend price exceeded	
	Distributors paid TCMPA	TCMPA blend to producers	Condensery		Condensery	Butter	Condensery	Butter
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1929	2.76	2.45	----	2.29	----	0.47	----	0.16
1930	2.35	2.02	----	1.87	----	.48	----	.15
1931	1.85	1.52	----	1.46	----	.39	----	.06
1932	1.34	1.12	.95	1.10	.39	.24	.17	.02
1933	1.11	1.07	.99	1.13	.12	-.02	.08	-.06
1934	1.71	1.42	1.16	1.32	.55	.39	.26	.10
1935	1.85	1.60	1.36	1.53	.49	.32	.24	.07
1936	2.01	1.85	1.57	1.69	.44	.32	.28	.16
1937	2.14	1.89	1.60	1.76	.54	.38	.29	.13
1938	1.82	1.51	1.26	1.43	.56	.39	.25	.08
1939	1.80	1.52	1.25	1.34	.55	.46	.27	.18
1940	1.83	1.62	1.38	1.51	.45	.32	.24	.11
1941	2.17	2.00	1.83	1.76	.34	.41	.17	.24
1942	2.60	2.46	2.05	2.06	.55	.54	.41	.40
1943	3.09	2.98	2.62	2.36	.47	.73	.36	.62
1944	3.12	3.00	2.64	2.36	.48	.76	.36	.64
1945	3.16	3.04	2.62	2.36	.54	.80	.42	.68
1946	4.04	3.89	3.44	3.17	.60	.87	.45	.72
1947	4.16	3.89	3.51	3.64	.65	.52	.38	.25
1948	4.60	4.31	3.83	3.87	.77	.73	.48	.44
1949	3.79	3.44	2.84	3.12	.95	.67	.60	.32
1950	3.74	3.40	2.97	3.10	.77	.64	.43	.30

1/ The yearly average price of 93-score butter at New York multiplied by 5.

Compiled from reports to the Dairy Branch, Production and Marketing Administration

Table 30.--Comparison of average Class II prices established by Order No. 73 and average prices paid by manufacturing plants in Minnesota, per hundredweight of 3.5 percent milk, 1947-50

Year	Class II price	Average prices paid producers by manufacturing plants			Amount Class II price exceeded average prices paid by manufacturing plants		
		Butter-creamery byproducts	American cheese	Condensery Northfield, Minnesota	Butter	Cheese	Condensery
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1947	3.46	3.22	3.32	3.51	0.24	0.14	-0.05
1948	3.95	3.64	3.73	3.83	.31	.22	.12
1949	3.09	2.82	2.78	2.84	.27	.31	.25
1950	3.07	2.86	2.80	2.97	.21	.27	.10

Compiled from data supplied by the Market Administrator and the Bureau of Agricultural Economics.

The second approach was to compare the uniform price calculated for each cooperative association by the market administrator under terms of Order No. 73 during the period February 1949 to June 1950 with the prices actually paid producers by such associations. The uniform price establishes the value of milk received by each association when the milk is priced at the applicable class prices established under the order, due consideration being given the use to which the association put the milk.

Under ideal pricing relationships, the cooperative associations should be able to pay producers the uniform price, barring policies of capital accumulation, the rendering of many costly services for members without specific charges, or noncompetition on price and the payment of patronage dividend. Under all conditions, proprietary handlers are required to pay producers the uniform price. The data in table 31 indicate that cooperative associations in the Twin City market paid producers blend prices which, for different associations, averaged as much as 12 cents a hundredweight less for Grade A milk than the uniform price, 64 cents less a hundredweight for milk that graded manufacturing 1, and 76 cents a hundredweight less for milk that graded manufacturing 2. During 2 months in 1949 the actual prices paid to certain groups of producers were more than $1 a hundredweight less than the uniform price as calculated by the market administrator. No data are available relative to the patronage dividend policy of the associations, but if such dividends were paid during this period they should, of course, be considered as an addition to producer returns. However, it is highly unlikely that patronage dividends would alter significantly the disparity between the actual prices paid and the uniform price as calculated by the market administrator.

A third development also is relevant to the question. Prior to the advent of the order, several proprietary handlers purchased milk directly from producers rather than rely upon cooperative associations for a balanced supply of Class I milk. Milk not used for fluid purposes was processed into cottage cheese or ice cream in their own plants or was sold to plants which had manufacturing facilities for butter and powder. Under terms of the order that regulate the relationship between producers and proprietary handlers, the market administrator check-weighed and check-tested the milk receipts from the nonmember producers, and calculated a uniform price that had to be paid producers by each such handler. The handlers also were required to pay producers the value of any "overstated" sales. All handlers who operated on this basis have withdrawn from the market during the period since 1945.

The withdrawal of such handlers has not limited the competition among suppliers of milk, however, because other producer cooperative associations entered the market and compete with the TCMPA, particularly in the sale of cream, for which they receive Class I prices without having to qualify their producers with the health departments.

Indications are, however, that the ability of some of these associations to operate under the order is based upon the right accorded them

Table 31.--Amount by which the uniform price computed by the Market Administrator for each cooperative association exceeded the actual prices reported paid producers by such cooperative associations for each type of milk, per hundredweight of 3.5 percent milk, f.o.b. plant, by months, January 1949-50

Year and month	Cooperative "A"			Cooperative "B"			Cooperative "C"		
	Grade A	Manuf. 1	Manuf. 2	Grade A	Manuf. 1	Manuf. 2	Grade A	Manuf. 1	Manuf. 2
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1949:									
January	--	--	--	--	--	--	--	--	--
February	-0.03	0.40	--	0.11	0.31	0.46	-0.085	0.22	--
March	0	.38	0.47	- .03	.37	.51	- .010	.21	--
April	- .03	.35	.44	0	.41	.54	- .075	.23	--
May	- .03	.35	.44	.09	.49	.62	- .075	.23	--
June	- .05	.33	.42	.14	.54	.68	- .075	.23	--
July	- .04	.52	.61	- .06	.54	.68	- .130	.36	--
August	.11	.90	.99	- .02	.84	.98	.030	.53	--
September	.35	1.15	1.24	.07	.93	1.07	0	.50	--
October	.33	1.13	1.22	0	.86	1.00	.025	.49	--
November	.17	.97	1.06	- .08	.78	.92	- .140	.445	--
December	- .01	.59	.68	- .05	.55	.69	- .140	.325	--
Average	.07	.64	.76	.02	.60	.74	- .06	.34	--
1950:									
January	0.01	0.43	0.52	0.11	0.51	0.65	-0.250	0.215	--
February	- .01	.39	.48	.13	.53	.67	- .175	.255	--
March	.02	.34	.43	.09	.49	.63	- .150	.222	--
April	0	.32	.41	.15	.55	.68	- .060	.228	--
May	- .02	.34	.43	.13	.53	.67	0	.288	--
June	.02	.34	.43	.11	.42	.56	- .045	.208	--
Average	- .004	.360	.450	.120	.505	.643	- .113	.236	--

Continued -

Table 31.--Amount by which the uniform price computed by the Market Administrator for each cooperative association exceeded the actual prices reported paid producers by such cooperative associations for each type of milk, per hundredweight of 3.5 percent milk, f.o.b. plant, by months, January 1949-50
-Continued

Year and month	Cooperative "D"		Cooperative "E"		Cooperative "F"		Cooperative "G"	
	Manuf. 1	Manuf. 2	Manuf. 1	Manuf. 2	Manuf. 1	Manuf. 2	Manuf. 1	Manuf. 2
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1949:								
January	--	--	--	--	--	--	--	--
February	0.035	0.155	--	--	0.171	0.261	-0.210	-0.110
March	- .030	.090	--	--	.125	.212	- .105	- .005
April	.015	.135	--	--	.222	.305	- .105	- .005
May	- .070	.050	--	--	.168	.254	.015	.115
June	- .050	.070	--	--	.185	.270	.060	.160
July	.015	.135	0.23	0.31	.202	.288	.105	.205
August	.055	.175	.27	.36	.220	.308	- .065	.035
September	.175	.295	.29	.38	.268	.357	.165	.265
October	.065	.185	.31	.40	.177	.268	.150	.250
November	.055	.175	.26	.35	.152	.245	.050	.150
December	.060	.110	.20	.29	.153	.246	.040	.140
Average	.030	.143	.260	.348	.186	.274	.091	.109
1950:								
January	- .055	-0.005	0.14	0.23	0.110	0.145	-0.005	0.095
February	- .055	- .005	.13	.22	.090	.182	- .005	.095
March	- .060	.060	.19	.27	.128	.216	- .080	.020
April	- .055	.065	.20	.28	.168	.253	- .030	.070
May	- .035	.085	.16	.24	.162	.248	- .100	0
June	- .070	.050	.21	.29	.255	.340	- .090	.010
Average	- .055	.042	.172	.255	.152	.231	- .052	.048

Compiled from data published by and obtained from the Market Administrator.

under the enabling act of paying producers a blend of net proceeds rather than the uniform price as calculated by the market administrator (although they are expressly prohibited from selling to handlers at less than the minimum class prices). Proprietary handlers, on the other hand, have no alternative but to pay the uniform price. The extent of this advantage [9] to cooperatives is indicated in part by the difference between the blend prices they have paid and the uniform price computed by the market administrator. This understates their advantage to some extent, however, since there is evidence (in the form of overstated sales) of some underweighing or undertesting, or both, of producer milk.

A fourth approach was a comparison of the Class II prices established by Order No. 73 and the prices established for milk used for manufacturing purposes by Federal orders in other markets located in the general region of the Minneapolis-St. Paul market. (See table 32 and fig. 9.) Although the classification plans in effect in each of the markets are not exactly comparable in each case, the comparisons generally cover the same products included in the Twin City Class II group. The footnote to table 32 specifies the exact products included in each class for which price comparisons are made.

These data indicate that during the period 1946-50 the Twin City Class II price always exceeded the Class IV price in Chicago (except for one month) and exceeded the Class III price in Chicago about 57 percent of the months involved. As compared with order prices in the Quad Cities (Davenport, Iowa and Rock Island, Moline, and East Moline, Illinois) market during this same period, the Twin City Class II price was higher than the Quad Cities Class IV price 82 percent of the months and higher than the Class III price 72 percent of the periods. During the period January 1946 to June 1949, when Class III in Dubuque and Class II in the Twin Cities contained about the same products, the Twin City Class II price was higher 38 out of 42 months. During the 3 years 1946-48, the Twin City Class II price annually averaged about 29 cents a hundredweight higher than Class III in Dubuque. For each month between July 1, 1949, and December 1950 Class II and III prices in Dubuque have been exceeded by the Class II price in Minneapolis-St. Paul--the Class II price by 20 cents a hundredweight and the Class III price by about 50 cents a hundredweight. Since August 1, 1949, Class II in St. Louis, Mo. and in the Twin Cities have contained nearly similar products, and the pricing data indicate that the Minneapolis-St. Paul price exceeded the St. Louis price for each month except December 1950. During this 17-month period, the difference averaged slightly more than 10 cents a hundredweight. Using average data for the years 1946 to 1950, we find that the Class II price

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[9] Whether or not it is an advantage to an association depends upon the relative merits of paying less than the uniform price as contrasted with depleting patrons' equity in the assets of the cooperative in the special case where the cooperative is relatively inefficient or where it is providing services beyond those rendered by other marketing agencies.

Table 32.--The amount by which Class II price in Minneapolis-St. Paul exceeded the prices paid per hundredweight of 3.5 percent milk used for manufacturing purposes in the Federal order markets of Chicago, Quad Cities, Dubuque, and St. Louis, by months, 1946-50 1/

Year and month	Chicago		Quad Cities		Dubuque		St. Louis
	Class III	Class IV	Class III	Class IV	Class II	Class III	Class II
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1946:							
January	- 0.015	+ 0.130	+ 0.089	+ 0.334		+ 0.389	
February	- .035	+ .146	+ .054	+ .350		+ .405	
March	- .055	+ .142	- .030	+ .346		+ .401	
April	- .097	+ .136	- .038	+ .340		+ .395	
May	- .117	+ .135	- .074	+ .132		+ .394	
June	- .035	+ .142	- .006	+ .139		+ .279	
July	+ .025	+ .122	+ .047	+ .119		+ .530	
August	- .021	+ .149	+ .059	+ .182		+ .280	
September	- .226	+ .065	+ .239	+ .128		+ .168	
October	- .107	+ .086	+ .028	- .060		- .229	
November	- .356	+ .117	- .273	- .052		+ .009	
December	- .099	+ .181	- .222	- .028		+ .564	
Average	- .095	+ .129	- .011	+ .161		+ .299	
1947:							
January	- .416	+ .033	- .552	- .105		+ .008	
February	+ .015	+ .107	+ .005	+ .086		+ .305	
March	- .222	+ .028	- .190	- .049		- .015	
April	- .407	+ .103	- .482	- .008		- .133	
May	- .123	+ .059	- .227	- .009		+ .228	
June	+ .035	+ .066	+ .041	+ .024		+ .245	
July	+ .041	+ .041	- .009	- .023		+ .213	
August	+ .048	+ .061	+ .013	- .150		+ .422	
September	+ .121	+ .121	+ .076	- .071		+ .448	
October	- .181	+ .124	- .116	- .030		- .052	
November	+ .076	+ .076	+ .144	+ .075		+ .370	
December	+ .165	+ .165	+ .366	+ .334		+ .683	
Average	- .071	+ .082	- .077	+ .006		+ .227	

See footnotes at end of table.

Table 32.—The amount by which Class II price in Minneapolis-St. Paul exceeded the prices paid per hundredweight of 3.5 percent milk used for manufacturing purposes in the Federal order markets of Chicago, Quad Cities, Dubuque, and St. Louis, by months, 1946-50 1/ -Continued

Year and month	Chicago		Quad Cities		Dubuque		St. Louis
	Class III	Class IV	Class III	Class IV	Class II	Class III	Class II
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1948:							
January	- 0.042	+ 0.069	+ 0.072	+ 0.284		+ 0.462	
February	+ .072	+ .112	- .048	+ .364		+ .467	
March	+ .097	+ .147	+ .083	+ .328		+ .686	
April	+ .114	+ .191	+ .206	+ .341		+ .665	
May	- .029	+ .157	+ .043	+ .524		+ .340	
June	- .015	+ .149	+ .067	+ .531		+ .303	
July	- .227	+ .111	- .094	+ .625		+ .008	
August	- .230	+ .186	- .333	+ .697		+ .103	
September	- .195	+ .063	- .323	+ .568		+ .218	
October	- .020	+ .087	- .253	+ .585		+ .229	
November	+ .056	+ .056	+ .154	+ .559		+ .402	
December	+ .052	+ .052	+ .239	+ .558		+ .306	
Average	- .030	+ .115	- .015	+ .497		+ .349	
1949:							
January	- .006	- .006	+ .086	+ .433		+ .326	
February	+ .022	+ .022	+ .121	+ .314		+ .369	
March	+ .142	+ .142	+ .172	+ .388		+ .378	
April	+ .108	+ .108	+ .163	+ .419		+ .283	
May	+ .158	+ .158	+ .207	+ .487		+ .301	
June	+ .151	+ .151	+ .199	+ .477		+ .288	
July	+ .077	+ .077	+ .228	+ .528	+ 0.262	+ .528	
August	+ .049	+ .049	+ .179	+ .499	+ .205	+ .499	+ 0.114
September	+ .071	+ .071	+ .240	+ .559	+ .265	+ .559	+ .139
October	+ .064	+ .064	+ .232	+ .551	+ .258	+ .551	+ .131
November	+ .075	+ .075	+ .242	+ .537	+ .261	+ .537	+ .143
December	+ .095	+ .095	+ .262	+ .564	+ .281	+ .564	+ .163
Average	+ .084	+ .084	+ .194	+ .480	2/ + .255	+ .432	3/ + .138

See footnotes at end of table.

Table 32.--The amount by which Class II price in Minneapolis-St. Paul exceeded the prices paid per hundredweight of 3.5 percent milk used for manufacturing purposes in the Federal order markets of Chicago, Quad Cities, Dubuque, and St. Louis, by months, 1946-50 1/ -Continued

Year and month	Chicago		Quad Cities		Dubuque		St. Louis
	Class III	Class IV	Class III	Class IV	Class II	Class III	Class II
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1950:							
January	+ 0.061	+ 0.061	+ 0.225	+ 0.530	+ 0.248	+ 0.530	+ 0.129
February	+ .071	+ .071	+ .190	+ .514	+ .221	+ .514	+ .136
March	+ .101	+ .212	+ .162	+ .474	+ .156	+ .474	+ .103
April	+ .131	+ .196	+ .151	+ .481	+ .143	+ .481	+ .096
May	+ .186	+ .211	+ .174	+ .490	+ .178	+ .490	+ .105
June	4/+ .209 5/+ .235	+ .217	+ .174	+ .489	+ .209	+ .489	+ .104
July	4/+ .223 5/+ .252	+ .223	+ .209	+ .510	+ .230	+ .510	+ .126
August	+ .165	+ .187	+ .172	+ .484	+ .200	+ .484	+ .098
September	+ .114	+ .134	+ .124	+ .440	+ .154	+ .440	+ .055
October	+ .081	+ .139	+ .115	+ .442	+ .151	+ .442	+ .057
November	- .002	+ .107	+ .102	+ .431	+ .124	+ .431	+ .023
December	- .199	+ .072	+ .057	+ .396	+ .075	+ .396	- .153
Average	4/+ .095 5/+ .100	+ .153	+ .155	+ .474	+ .174	+ .474	+ .073

1/ Minneapolis Class II - All products except fluid uses and cream. St. Louis Class II - Aug. 1, 1949 - All except fluid uses, cream, and any product (except cottage cheese, ice cream, and ice cream mix) required by health authorities to be made from Grade A or Grade B raw milk. Chicago Class III - All products except fluid uses, ice cream, ice cream mix, cottage cheese, butter, and cheese. Includes products disposed of in bulk to bakeries, soup companies, and candy manufacturers. Chicago Class IV - Butter, cheese. Dubuque Class III - Butter, cheese, evaporated milk, condensed milk, powdered whole milk, ice cream mix, and ice cream. Effective July 1, 1949, butter, American-type Cheddar cheese, animal feed, casein, and nonfat dry milk solids. Dubuque Class II - Effective July 1, 1949, evaporated milk, condensed milk, ice cream, ice cream mix, cottage cheese, and any other product not specified in other classes. Quad Cities Class III - Evaporated milk, condensed milk, ice cream and ice cream mix, unsalted butter, and cottage cheese (after May 1, 1948). Quad Cities Class IV - Butter, Cheddar cheese, animal feed, and casein.

2/ Simple average of 6 months only.

3/ Simple average of 5 months only.

4/ All other bulk.

5/ Condensed milk, evaporated milk and powdered whole milk.

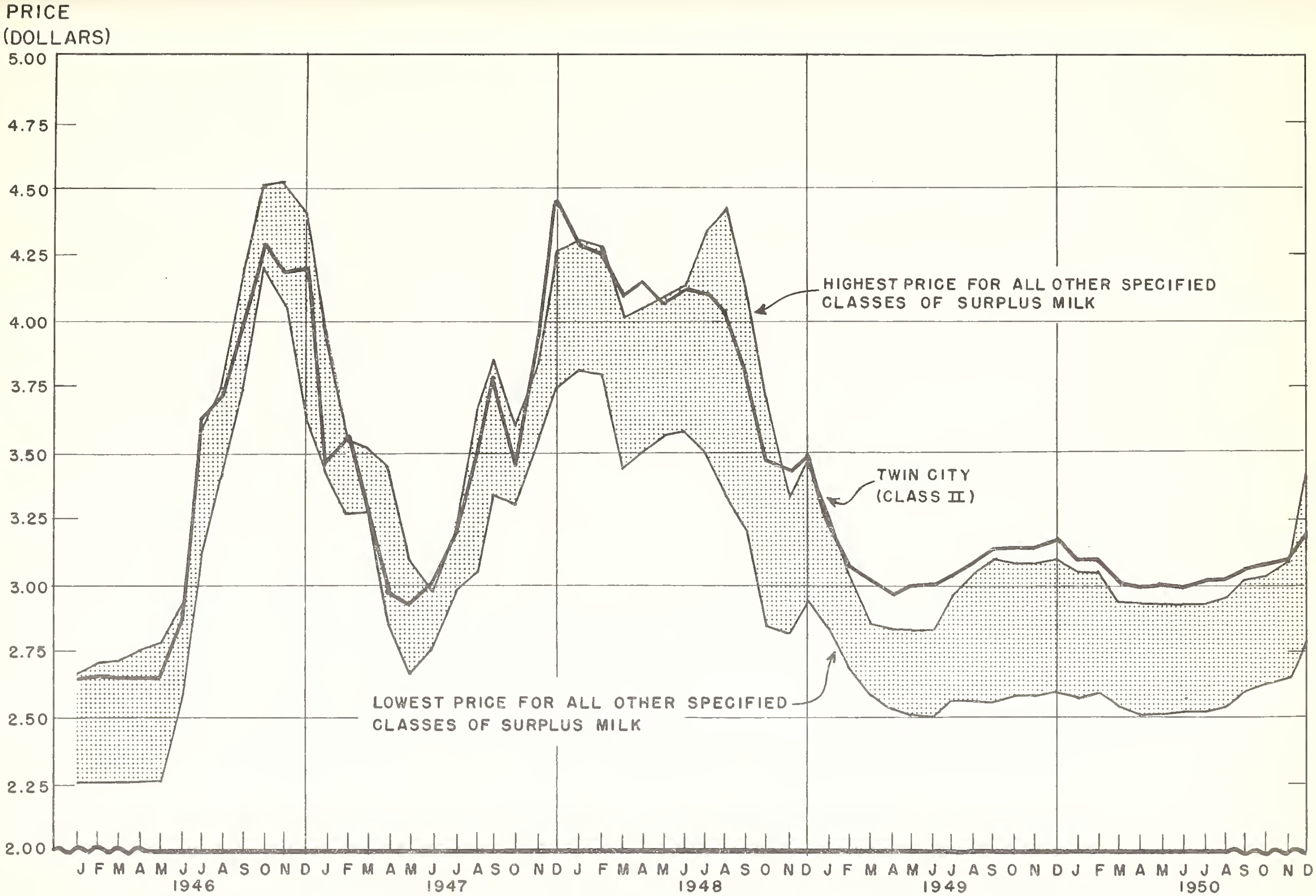

Figure 9. Relationship of prices for Class II milk in the Twin City Market to the range prices for surplus milk in the Federal Order markets of Chicago, Quad Cities, Dubuque, and St. Louis, by months, 1946-50.
(For a list of products in the different classes of surplus milk, see footnote at end of table 32.)

for Minneapolis-St. Paul was within about 1 cent a hundredweight of the Class III price in Chicago and exceeded the Class IV price by about 11 cents a hundredweight; exceeded the Class III price in the Quad Cities by 5 cents and the Class IV price by 32 cents; and exceeded the Class III price for the Dubuque market by 35 cents a hundredweight. In addition, for the entire period between January 1949 and November 1950, the Class II price established by the Twin City order exceeded the prices established for all the classes of milk for the different markets included in table 32.

Blend Prices Paid Member-Producers by TCMPA

The prices actually received for milk by most producers for the Twin City market (and the prices upon which producers base their decisions), is the blend price of the TCMPA. The data in column 2 of table 29 indicate the year-to-year variations in the level of the producers' blend price. It is apparent that in the majority of years the blend price has averaged about 30 cents a hundredweight less than the distributors' paying price for fluid milk. Notable exceptions to this tendency are the years 1933 and 1941-46. The serious milk price war of 1933 upset the normal relationship in that year and the rigid price control measures of World War II upset the normal relationship between 1941 and 1946.

Data presented in table 33 indicate that on the average TCMPA members received approximately 60 cents a hundredweight more for their milk production during the years 1947-50 than did producers who sold milk for manufacturing purposes to manufacturing plants in Minnesota. This 60-cent differential is not necessarily extra net income, however, because producers have higher costs in meeting the requirements of the Grade A fluid market.

Distribution of Milk

As background for later appraisal, an attempt also was made to collect data on as many phases of the distribution system as possible and to examine the changes that have taken place in the structure of this aspect of the Twin City fluid milk market between 1929 and 1950. Although it was not possible to get information on all the factors involved in the distribution of fluid milk and its products, those topics covered should help explain the environment or conditions in which the Federal milk order had to operate. After describing here the changes that did take place, an attempt will be made to determine what effects, if any, Federal regulations may have had upon these changes.

Number and Importance of Various Types of Distributors

The changes that have taken place in the number of milk distributors of different types in the Minneapolis-St. Paul market are shown in table 34 for the years since 1929. It will be noted that the total number of milk

Table 33.--Comparison of the weighted average blend price paid member-producers by Twin City Milk Producers Association and the average prices paid by manufacturing plants in Minnesota, per hundredweight of 3.5 percent milk, 1947-50

Year	TCMPA blend price	Average prices paid producers by manufacturing plants			Amount TCMPA blend price exceeded average prices paid by manufacturing plants		
		Butter-creamery byproducts	American cheese	Condensery Northfield, Minnesota	Butter	Cheese	Condensery
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1947	3.89	3.22	3.32	3.51	0.67	0.57	0.38
1948	4.31	3.64	3.73	3.83	.67	.58	.48
1949	3.44	2.82	2.78	2.84	.62	.66	.60
1950	3.40	2.86	2.80	2.97	.54	.60	.43

Compiled from data supplied by the Twin City Milk Producers Association and the Bureau of Agricultural Economics.

Table 34.--Number of distributors making sales of specified types of milk and cream, Minneapolis, and the number of pasteurizing plants and raw milk distribution routes, St. Paul, 1929-50

Year	Minneapolis							St. Paul		
	Past. milk	Raw milk	Cert. milk	All milk	Past. cream	Raw cream	All cream	Past. plants	Raw milk	All milk
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
1929								14	94	108
1930	19	29	13	61	23	31	54	19	80	99
1931	23	29	12	64	28	28	56	22	80	102
1932	25	30	12	67	26	26	52	25	74	99
1933	22	24	12	58	24	20	44	19	74	93
1934	26	22	14	62	27	19	46	23	75	98
1935	27	19	12	58	28	15	43	22	71	93
1936	27	17	14	58	28	16	44	21	1/	1/
1937	27	13	12	52	27	11	38	24	64	88
1938	22	12	10	44	22	11	33	23	60	83
1939	21	14	11	46	21	10	31	21	57	78
1940	21	14	10	45	21	11	32	19	54	73
1941	23	14	7	44	23	10	33	19	49	68
1942	21	12	5	38	21	8	29	19	44	63
1943	19	8	4	31	19	5	24	19	40	59
1944	16	7	0	23	16	4	20	16	35	51
1945	17	6	0	23	16	3	19	16	25	41
1946	19	4	0	23	18	1	19	16	19	35
1947	17	4	0	21	16	1	17	16	15	31
1948	17	3	0	20	16	1	17	15	14	29
1949	17	3	0	20	17	1	18	1/	1/	1/
1950	17	1	0	18	16	0	16	1/	1/	1/

1/ Not available.

Compiled from records of the health department of Minneapolis, and the St. Paul Bureau of Health.

distributors licensed by each city has shown a definite decrease since 1929. Since 1933 this decline in number of distributors has been consistent. Raw and certified milk distributors have suffered the greatest decrease in numbers in both Minneapolis and St. Paul; the decrease among pasteurized milk dealers has been much slower, but equally steady.

There were slightly more raw milk distributors than pasteurized milk distributors in Minneapolis until 1934, although the volume of raw milk sold never exceeded 3½ percent of total fluid milk sales during any year since 1928. Between 1933 and 1950, however, the number of raw milk distributors decreased from 24 to 1 while the number of pasteurized milk dealers varied from 22 to 17. Since 1937 raw milk sales have never comprised more than 2 percent of all milk sales, and since 1944, the volume has been almost negligible. In fact, the volume of high-quality raw milk, as table 35 indicates, never was an important factor in the Minneapolis market. A similar pattern is apparent in the sale and distribution of raw fluid cream; this is indicated by the number of raw cream distributors in table 34 and their volume of sales in table 36. Between 10 and 14 certified milk distributors serviced the market between 1930 and 1940; their number declined sharply after that, the last four of them discontinuing distribution in 1943.

The pattern of milk distribution has been somewhat different for St. Paul. Raw milk has always been a more important product there than in Minneapolis; in the early 1930's it constituted about one-fifth of all the sales of milk in that city. During this period, St. Paul licensed between 74 and 80 raw milk distributors annually as compared with between 19 and 25 pasteurizing plants (see table 34). Since 1935 the number of such raw milk dealers had rapidly and consistently declined to a minimum of 14 in 1948. The number of pasteurizing plants meanwhile underwent a more gradual, but nonetheless consistent, decline to 15 in 1948. Concurrently with the sharp decline in the number of raw milk distributors in St. Paul, the importance of raw milk consumption has also decreased relative to total fluid milk usage. The data in table 37 reveal this decline and indicate that the proportion that raw milk comprised dropped from 20 percent of the total in 1930 to about 11 percent in 1940 and to 2½ percent in 1948. On July 1, 1950, distributors of this type disappeared from all Minnesota cities because of the State law, which required the pasteurization of all milk sold for fluid consumption, except that sold to consumers directly from a farm.

Changes in the Size of Individual Distributors

The corollary of the gradual but consistent decline in the number of milk distributors in the Twin Cities is an increase in the volume of business handled by those who continued to serve the market. No long-run data are available for the market as a whole, but annual distributor reports to the health department of Minneapolis give a consolidated picture of the changes in importance of individual distributors in that city from 1930 through 1950. These data are presented in table 38, together with an

Table 35.--Pounds of fluid milk sold in Minneapolis, classified according to type of milk, 1929-50

Year	Pasteurized milk		Raw milk		Certified milk		Total milk
	1,000 pounds	Percent 1/	1,000 pounds	Percent 1/	1,000 pounds	Percent 1/	1,000 pounds
1929	128,429	96.3	4,489	3.4	373	.3	133,291
1930	133,034	96.7	4,217	3.1	294	.2	137,545
1931	132,919	96.9	4,092	3.0	200	.1	137,211
1932	132,789	97.2	3,628	2.7	140	.1	136,557
1933	133,474	97.7	3,031	2.2	105	.1	136,610
1934	128,636	97.4	3,266	2.5	106	.1	132,008
1935	131,771	97.5	3,201	2.4	97	.1	135,069
1936	135,834	97.7	3,086	2.2	96	.1	139,016
1937	143,654	98.3	2,451	1.7	68	-	146,173
1938	139,064	98.6	1,952	1.4	73	-	141,089
1939	145,986	98.3	2,469	1.7	66	-	148,521
1940	146,150	98.4	2,397	1.6	48	-	148,595
1941	149,207	98.4	2,361	1.6	32	-	151,600
1942	158,831	98.7	2,067	1.3	17	-	160,915
1943	179,150	99.0	1,792	1.0	9	-	180,951
1944	176,018	99.3	1,265	.7	0	0	177,283
1945	191,870	99.5	950	.5	0	0	192,820
1946	205,214	99.6	781	.4	0	0	205,995
1947	204,701	99.6	745	.4	0	0	205,446
1948	204,604	99.6	737	.4	0	0	205,341
1949	213,055	99.7	557	.3	0	0	213,612
1950	224,710	99.9	287	.1	0	0	224,997

1/ Computed from unrounded figures.

Compiled from records of the health department of Minneapolis.

Table 36.--Pounds of fluid cream sold in Minneapolis, classified according to type, 1929-50

Year	Pasteurized cream		Raw cream		Total cream
	1,000 pounds	Percent 1/	1,000 pounds	Percent	1,000 pounds
1929	10,724	96.1	438	3.9	11,162
1930	11,304	97.3	308	2.7	11,612
1931	14,673	98.0	306	2.0	14,979
1932	12,700	98.2	231	1.8	12,931
1933	11,839	98.4	192	1.6	12,031
1934	10,395	98.2	193	1.8	10,588
1935	10,761	97.9	228	2.1	10,989
1936	11,369	98.5	171	1.5	11,540
1937	11,284	98.9	126	1.1	11,410
1938	10,729	98.8	126	1.2	10,855
1939	11,612	98.5	172	1.5	11,784
1940	11,488	98.4	193	1.6	11,681
1941	11,047	98.7	149	1.3	11,196
1942 2/	10,717	98.7	146	1.3	10,863
1943	10,390	99.2	80	.8	10,470
1944	9,230	99.0	90	1.0	9,320
1945 2/	12,464	99.8	30	.2	12,494
1946	15,019	99.9	22	.1	15,041
1947	14,392	99.9	15	.1	14,407
1948	12,326	99.9	15	.1	12,341
1949	9,836	99.9	11	.1	9,847
1950	8,656	100.0	0	-	8,656

1/ Computed from unrounded figures.

2/ Twenty-five percent butterfat cream, 1929-December 1942; 20 percent butterfat cream, 1943-September 1946; 25 percent butterfat cream, October 1946-December 1950.

Compiled from records of the health department of Minneapolis.

Table 37.--Fluid milk sales classified according to type of milk, St. Paul, 1929-48.

Year	Pasteurized milk		Raw milk		Total milk
	1,000 pounds	Percent	1,000 pounds	Percent	1,000 pounds
1929	301,000	88.2	40,420	11.8	341,420
1930	204,895	79.6	52,417	20.4	257,312
1931	215,989	81.0	50,628	19.0	266,617
1932	197,671	80.9	46,680	19.1	244,352
1933	195,349	83.6	38,184	16.4	233,533
1934	192,812	83.9	36,980	16.1	229,792
1935	197,671	83.9	38,038	16.1	235,709
1936	221,983	86.4	34,942	13.6	256,925
1937	214,802	84.8	38,571	15.2	253,373
1938	211,887	84.9	37,711	15.1	249,598
1939	218,612	85.9	36,000	14.1	254,612
1940	252,840	89.2	30,711	10.8	283,551
1941	251,722	88.3	33,325	11.7	285,047
1942	247,852	89.0	30,788	11.0	278,640
1943	288,272	91.0	28,500	9.0	316,772
1944	288,203	92.8	22,257	7.2	310,460
1945	325,252	94.8	17,793	5.2	343,045
1946	352,600	95.9	15,153	4.1	367,753
1947	344,447	97.3	9,460	2.7	353,907
1948	342,280	97.5	8,695	2.5	350,975

Compiled from data supplied by the St. Paul Bureau of Health.

iso-quant (equal-quantity) curve which depicts the number of distributors that together supplied 75 percent of the volume of fluid milk consumed in Minneapolis during those years.

The six largest distributors sold more than 76 percent of the pasteurized milk in 1930; they then began to lose ground until by 1932, and particularly from 1934 through 1937, that proportion of the total volume of milk sold was shared by eight distributors. This decrease in the relative importance of the larger Minneapolis dealers was a result of the increase in the number of distributors selling pasteurized milk during 1931-37 and also of the temporarily increased importance of milk peddlers and vendors.

From 1937 through 1946 the number of distributors fluctuated slightly, but fewer and fewer handlers remained in the Minneapolis market and the larger distributors obtained an increasing proportion of the market. About 76 to 78 percent of the milk was sold by five distributors during the last 4 years of this period. This pattern has altered slightly since then; although the number of distributors remained stabilized at 17, the medium-sized dealers gained in relative importance at the expense of the largest and particularly the smallest ones. By 1950 the 3 largest distributors were selling slightly more than 52 percent of the fluid milk in Minneapolis, the 7 largest were selling about 92 percent, and the 10 remaining dealers were selling the remaining 8 percent of the sales.

A similar but more striking picture of these shifts in size and number of distributors in the entire Twin City market during the month of June for each year from 1943 through 1949 is pictured in table 39. The decline in the total number of handlers servicing the area is readily apparent from this table. These data indicate that about one-half of the fluid milk in the entire Twin Cities marketing area as defined in Order No. 73 is sold by 5 companies, and 9 or 10 handlers consistently have sold 75 percent of the fluid milk. The growing importance of the medium-sized distributors is again illustrated by the fact that 14 medium-sized handlers sold 40 percent of the milk in June 1943, but that in June 1949 that proportion was sold by only 11 such handlers. The remaining 10 percent of the sales was divided between 24 small handlers in June 1943, but among only 12 such handlers in June 1949.

A classification of fluid milk handlers in the market during June 1943-49, based on their respective volumes as reported to the administrator of the various Federal milk regulations, is shown in table 40. The most striking change is the decrease in the number of handlers whose individual volumes were less than 500,000 pounds of milk per month. Thirty-two such handlers were in the market in June 1943; since that time the gradual withdrawal of such firms has reduced their number to 22 in June 1946, to 21 in June 1947, to 18 in June 1948, and to 15 each in June 1949 and 1950. These same data indicate the consistency with which the same four large handlers have maintained a monthly volume for June of more than 2 million pounds of milk beginning in 1945. Nine handlers

Table 38.--Cumulative percentage of pasteurized milk sales handled by specified numbers of distributing plants, Minneapolis, Minn., 1930-50

Number of distributing plants	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
3 largest	43.7	41.4	39.0	39.3	38.0	37.2	36.5	41.8	46.4	44.8
4	57.0	53.6	50.1	50.6	48.9	47.8	46.7	52.2	56.6	54.9
5	68.9	65.1	61.2	61.8	59.8	58.4	56.7	59.2	64.5	62.9
6	76.3	71.3	67.1	67.7	65.4	64.2	63.1	65.4	71.4	69.8
7	81.4	76.0	71.9	73.0	70.9	69.4	68.6	71.0	77.6	76.3
8	85.1	79.7	76.2	78.2	76.1	74.2	73.7	76.6	83.7	82.3
9	88.7	83.4	80.4	82.0	81.0	79.0	78.7	81.4	87.2	87.1
10	92.0	86.8	84.1	84.7	83.6	82.5	82.4	84.7	89.3	89.5
11	93.7	89.3	86.6	87.2	86.1	85.3	85.5	87.1	91.3	91.9
12	95.4	91.7	88.8	89.2	88.3	87.4	87.6	88.8	93.3	93.9
13	97.0	93.8	91.0	91.2	90.1	89.4	89.3	90.5	94.9	95.9
14	98.5	95.9	92.9	93.1	91.7	91.0	90.8	92.2	96.4	97.5
15	99.7	97.8	94.8	94.8	93.3	92.6	92.3	93.7	97.7	99.0
16	99.9	99.1	96.6	96.3	94.8	94.0	93.7	95.2	98.9	99.3
17	99.9+	99.6	98.1	97.8	96.2	95.4	95.1	96.6	99.4	99.6
18	99.9+	99.9	98.6	98.8	97.3	96.7	96.4	97.7	99.7	99.8
19	100.0	99.9+	99.0	99.4	98.2	97.8	97.7	98.6	99.8	99.9
20		99.9+	99.4	99.8	99.0	98.9	99.0	98.9	99.9	99.9+
21		99.9+	99.7	99.9+	99.5	99.3	99.3	99.2	99.9+	100.0
22		99.9+	99.8	100.0	99.8	99.6	99.6	99.4	100.0	
23		100.0	99.9		99.9	99.7	99.7	99.6		
24			99.9+		99.9+	99.8	99.8	99.7		
25			100.0		99.9+	99.9	99.9	99.8		
26					100.0	99.9+	99.9+	99.9		
27						100.0	100.0	100.0		

Continued -

Table 38.--Cumulative percentage of pasteurized milk sales handled by specified numbers of distributing plants, Minneapolis, Minn. 1930-50 --Continued

Number of distributing plants	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
3 largest	45.1	46.5	55.3	57.2	57.4	57.8	55.8	54.6	52.9	51.6	52.7
4	54.8	56.0	65.0	67.4	69.0	68.5	66.1	65.3	63.6	62.5	63.9
5	62.9	63.2	72.7	76.7	78.9	78.4	76.3	75.6	74.2	73.1	74.6
6	69.9	70.2	78.9	83.8	86.7	85.4	84.0	83.5	81.6	83.1	85.0
7	76.3	76.2	84.3	87.8	90.9	89.7	88.5	88.2	87.8	90.3	92.1
8	82.6	82.1	89.0	91.0	93.1	92.2	92.1	92.1	90.7	93.1	94.6
9	87.0	86.1	91.0	93.1	95.1	94.3	94.3	94.7	93.4	95.7	96.8
10	90.4	89.9	92.8	95.1	96.7	96.3	95.8	97.0	96.0	97.7	98.5
11	92.5	92.0	94.5	96.4	98.1	98.1	97.0	98.7	98.1	99.1	99.6
12	94.5	94.0	95.9	97.6	99.3	99.1	98.0	99.2	99.2	99.7	99.9
13	96.4	95.8	97.1	98.6	99.6	99.4	98.7	99.5	99.5	99.8	99.9+
14	97.8	97.3	98.3	99.1	99.8	99.6	99.3	99.7	99.7	99.9	99.9+
15	99.0	98.7	99.0	99.4	99.9	99.8	99.6	99.8	99.9	99.9+	99.9+
16	99.3	99.1	99.3	99.6	100.0	99.9	99.8	99.9	99.9+	99.9+	99.9+
17	99.5	99.3	99.5	99.8		100.0	99.9	100.0	100.0	100.0	100.0
18	99.7	99.5	99.7	99.9			99.9+				
19	99.8	99.7	99.9	100.0			100.0				
20	99.9	99.8	99.9+								
21	100.0	99.9	100.0								
22		99.9+									
23		100.0									

Compiled from records of the health department of Minneapolis.

Table 39.--Cumulative percentage of the total volumes of fluid milk distributed in the Twin City market by specified numbers of handlers, month of June 1943-49

Number of distributors	1943	1944	1945	1946	1947	1948	1949
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
4 largest	43.15	45.20	45.14	44.77	42.86	42.99	44.21
5	50.34	52.54	52.42	51.75	49.69	49.79	50.98
6	57.45	59.74	59.19	58.00	55.95	56.31	57.61
7	63.45	66.00	65.49	63.94	62.05	62.53	63.80
8	68.71	71.14	70.73	69.15	67.26	67.82	69.28
9	73.35	75.98	75.08	73.11	71.83	72.12	74.74
10	75.97	78.64	77.83	75.87	75.71	75.15	78.97
11	78.47	81.08	80.24	78.45	78.18	77.99	81.10
12	80.55	83.07	82.23	81.02	80.39	80.32	83.23
13	82.57	84.80	83.99	82.90	82.55	82.37	85.24
14	84.47	86.19	85.73	84.76	84.58	84.37	87.06
15	85.87	87.48	87.15	86.31	86.77	86.11	88.64
16	87.22	88.71	88.43	87.59	88.13	87.85	90.14
17	88.46	89.92	89.66	88.86	89.70	89.50	91.50
18	89.65	90.94	90.69	90.12	91.02	91.12	92.80
19	90.80	91.88	91.69	91.34	92.30	92.47	93.96
20	91.61	92.69	92.52	92.49	93.50	93.71	95.06
21	92.32	93.44	93.31	93.49	94.55	94.92	96.13
22	93.03	94.14	94.02	94.33	95.40	96.04	97.02
23	93.74	94.78	94.67	95.16	96.04	96.96	97.74
24	94.41	95.40	95.30	95.96	96.65	97.66	98.43
25	95.08	96.00	95.90	96.55	97.21	98.24	98.97
26	95.73	96.56	96.49	97.10	97.72	98.74	99.37
27	96.38	97.05	97.06	97.65	98.20	99.13	99.71
28	96.83	97.45	97.50	98.17	98.62	99.43	100.00
29	97.20	97.83	97.93	98.67	98.98	99.71	
30	97.55	98.15	98.34	99.08	99.26	99.96	
31	97.88	98.46	98.67	99.43	99.53	100.00	
32	98.15	98.72	98.99	99.72	99.73		
33	98.42	98.95	99.23	99.88	99.88		
34	98.68	99.18	99.44	99.99+	100.00		
35	98.91	99.40	99.60	100.00			
36	99.13	99.54	99.75				
37	99.34	99.67	99.85				
38	99.52	99.77	99.94				
39	99.65	99.87	100.00				
40	99.77	99.95					
41	99.87	100.00					
42	99.95						
43	100.00						

Table 40.--Number of fluid milk handlers in the Twin City market, according to volume of sales of fluid milk, month of June 1943-50

Volume in pounds	Handlers in month of June--							
	1943	1944	1945	1946	1947	1948	1949	1950
	Number	Number	Number	Number	Number	Number	Number	Number
Less than 250,000	24	24	22	15	14	9	7	9
250,000- 499,999	8	6	6	7	7	9	8	6
500,000- 749,999	2	2	2	3	3	3	3	3
750,000- 999,999	0	0	0	1	0	1	0	0
1,000,000-1,249,999	2	2	1	1	2	1	1	1
1,250,000-1,499,999	1	1	1	1	1	1	2	0
1,500,000-1,749,999	2	2	3	2	2	2	1	1
1,750,000-1,999,999	1	1	0	1	1	1	2	3
2,000,000 or more	3	3	4	4	4	4	4	5
Total	43	41	39	35	34	31	28	28

Compiled from records submitted in compliance with FDO No. 79-45 from 1943 through 1945 and with Order No. 73 since that time.

(and 10 each in 1947, 1949, and 1950) had June sales of more than 1 million pounds each year during this period.

Shifts in the Relative Importance of Wholesale Outlets and Retail Home-Delivery Routes

Another significant change in the distribution pattern for fluid milk becomes apparent when analysis is made of the proportion of fluid milk sold that was delivered by milk-wagon drivers directly to homes during the 8-year period between 1943-50. Records that reveal separately the amounts of milk sold through grocery stores, milk stores, and home deliveries are not available, hence direct comparisons cannot be made between these various modes of sale. However, table 41 presents the total amount of fluid milk sold in the Twin Cities area in the month of June for the years from 1943 through 1950, divided into the amounts sold as "wholesale" sales (combined sales to stores, restaurants, hotels, etc.) and the amounts delivered to homes by milk wagons.

These data indicate that home deliveries gained in relative importance from 1943 through 1945, but since that time have decreased relative to the other types of distribution. This shift, when expressed in percentages of total sales, is borne out by the fact that home deliveries constituted 48.86 percent of total sales in 1943, and increased to 51.96 percent in 1944 and 54.81 percent in 1945. War emergency controls on private usage of automobiles, tires, gasoline, etc., undoubtedly influenced this shift in consumer milk-purchasing methods. By June 1946, however, home-delivered sales had again declined in importance to 52.33 percent of total sales, and this downward trend continued each year until in June 1949 only about 48 percent of all fluid milk sold in the Twin City area was delivered directly to homes.

Month-to-month variations in the importance of home-delivered sales of fluid milk for the period January 1948 through June 1950 are detailed in table 42. Small seasonal variations in consumer use of home-delivered sales are indicated in these data, with home-delivered sales absorbing from about 50 to 52 percent of the sales in the winter months of December through February and wholesale sales supplying from about 51 to 53 percent of the market from July through October of each year.

This growing importance of the "wholesale" types of sales as outlets for fluid milk has a corollary in the changes that have taken place in the character of business operations of the handlers in the Twin City market. When the active handlers are classified according to whether they engage exclusively in home-delivered sales, or in sales through wholesale outlets, or a combination of the two types, a significant shift is apparent. These data, presented in table 43 following, show that the number using wholesale outlets exclusively remained relatively fixed, the number using both wholesale and retail outlets declined between June 1946 and June 1947 but remained constant after that time, and that business mortality occurred primarily among those handlers who had only home-delivered sales.

Table 41.--Total sales of fluid milk: Volume and percentage sold at wholesale (including stores) and at retail (home delivery), month of June 1943-50

Month of June	Total fluid milk sales	Volume at--		Percentage at--	
		Wholesale	Retail	Wholesale	Retail
	Pounds	Pounds	Pounds	Percent	Percent
1943	22,929,962	11,727,036	11,202,926	51.14	48.86
1944	22,589,667	10,851,019	11,738,648	48.04	51.96
1945	23,909,663	10,805,190	13,104,473	45.19	54.81
1946	27,865,625	13,284,029	14,581,596	47.67	52.33
1947	26,605,536	13,106,791	13,498,745	49.26	50.74
1948	26,664,379	13,371,220	13,293,159	50.15	49.85
1949	27,056,882	13,899,097	13,157,785	51.37	48.63
1950	28,191,072	14,394,848	13,796,224	51.06	48.94

Compiled from records of the Market Administrator.

Table 42.--Total sales of fluid milk: Volume and percentage sold at wholesale (including stores) and at retail (home delivery), January 1948-June 1950

Year and month	Total fluid milk sales	Volume at--		Percentage at--	
		Wholesale	Retail	Wholesale	Retail
	Pounds	Pounds	Pounds	Percent	Percent
1948					
January	28,801,811	14,076,462	14,725,349	48.87	51.13
February	26,717,570	12,914,371	13,803,199	48.34	51.66
March	28,701,251	14,379,423	14,321,828	50.10	49.90
April	27,660,815	13,792,001	13,868,814	49.86	50.14
May	27,401,922	13,630,955	13,770,967	49.74	50.26
June	26,664,379	13,371,220	13,293,159	50.15	49.85
July	26,896,503	13,938,890	12,957,613	51.82	48.18
August	27,327,352	13,987,103	13,340,249	51.18	48.82
September	27,845,383	14,594,545	13,250,838	52.41	47.59
October	28,893,795	14,875,112	14,018,683	51.48	48.52
November	28,074,335	14,378,146	13,696,189	51.22	48.78
December	28,571,276	14,348,108	14,223,168	50.22	49.78
Total	333,556,392	168,286,336	165,270,056	50.45	49.55
1949					
January	28,901,512	14,422,643	14,478,869	49.91	50.09
February	26,390,270	13,303,768	13,086,502	50.41	49.59
March	29,424,842	14,772,915	14,651,927	50.21	49.79
April	28,342,324	14,308,654	14,033,670	50.48	49.52
May	28,009,774	13,982,365	14,027,409	49.92	50.08
June	27,056,882	13,899,097	13,157,785	51.37	48.63
July	27,239,124	14,095,402	13,143,722	51.75	48.25
August	28,504,020	14,960,902	13,543,118	52.48	47.52
September	28,075,933	14,732,523	13,343,410	52.47	47.53
October	29,897,290	15,782,657	14,114,633	52.79	47.21
November	29,013,746	15,105,439	13,908,307	52.06	47.94
December	29,511,659	15,066,570	14,445,089	51.05	48.95
Total	340,367,376	174,432,935	165,934,441	51.25	48.75
1950					
January	29,944,360	15,160,040	14,784,320	50.63	49.37
February	27,342,904	14,075,519	13,267,385	51.48	48.52
March	30,545,525	15,749,051	14,796,474	51.56	48.44
April	28,937,641	14,730,964	14,206,677	50.91	49.09
May	29,939,111	15,282,369	14,656,742	51.04	48.96
June	28,191,072	14,394,848	13,796,224	51.06	48.94
Total 1/	174,900,613	89,392,791	85,507,822	51.11	48.89

1/ Six months only.

Compiled from records of the Market Administrator.

Table 43.--Number of handlers classified according to method of selling fluid milk during month of June, Minneapolis-St. Paul marketing area, 1946-50

Classification of handlers	1946	1947	1948	1949	1950
	Number	Number	Number	Number	Number
Handlers who sell exclusively through home-deliveries	8	8	6	3	4
Handlers who sell exclusively through wholesale outlets (including stores)	7	8	7	7	6
Handlers using both types of outlets	20	18	18	18	18
Total handlers	35	34	31	28	28

The shift from home-delivered milk to wholesale and store outlets has taken a varied trend as between Minneapolis and St. Paul since June 1946. Up to that time about the same price differential between delivered and wholesale milk prices existed in both cities, and the same general distribution patterns prevailed in them. During the last 6 months of 1946 the differential fluctuated quite sharply within and between the two cities. Since June 1947 the differential between delivered and store prices has remained constant in both cities, but the St. Paul distributors allow a difference of 2½ cents a quart in prices while Minneapolis distributors permit only a 1½cent a quart differential.

This difference between the two cities in current pricing policy at the retail and wholesale levels (both paying the producers identical prices for milk) is striking, in view of the fact that in most respects the two cities constitute a single marketing area. A number of factors undoubtedly have influenced the decision of St. Paul distributors to price milk in a manner calculated to favor store sales and of Minneapolis distributors to price milk in a manner calculated to favor the continued usage of milk wagon deliveries instead of encouraging store sales by maintaining a wide differential between the retail price of milk from the two sources. The "Elwell Plan" 10/ of pricing milk had been operative in the market, and particularly in Minneapolis, from time to time since 1939. It had the firm backing of the two principal distributors and the Milk Wagon Drivers' Union in Minneapolis, and these parties favored the continuance of home deliveries rather than the expansion of store sales. St. Paul distributors, on the other hand, were not enthusiastic over the Elwell plan,

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10/ Named for its proponent, Edwin S. Elwell, president of the Northland Milk and Ice Cream Company of Minneapolis, Minnesota. See section entitled "Quantity Discount Plans for Consumers" for a description of plan.

did not have to contend with a strong labor union, and preferred instead to rely upon store outlets to provide consumers with an economical source of milk.

Table 44 presents data available in the market on the changes in the average amount of milk sold each day at wholesale and retail in each of the cities for selected months during 1946 and 1947, the first 6 months of 1950, and for the entire years of 1948 and 1949. The data show that approximately two-thirds of the fluid milk sold in the Twin City market during this period was sold in Minneapolis and suburbs and about one-third was sold in St. Paul and suburbs. The proportion of total milk in the market sold in each city has varied slightly between 1946 and 1950; sales in Minneapolis and suburbs increased from about 63.8 percent to 64.6 percent during this period, whereas St. Paul experienced a proportionate decline. The rate of increase in population between 1940 and 1950, however, was greater in Minneapolis and suburbs than in St. Paul and suburbs (17.8 and 16.4 percent respectively), so the changes in total sales probably have little significance.

Nevertheless, the portion of table 44 that indicates the shifts in the proportion of milk sold at wholesale and retail in each of the cities is of some significance. These data show that retail (home-delivered) sales constituted between 51.6 and 53.3 percent of total sales in Minneapolis throughout the period indicated; the proportion increased slightly in 1949 and in the first 6 months of 1950 after reaching a minimum of 51.6 percent in 1948. St. Paul, on the other hand, experienced a significant shift toward the purchase of fluid milk through stores and wholesale outlets; the proportion of milk sold by home deliveries decreased from 49.1 percent in 1946 to 42.3 percent in the first 6 months of 1950.

Shifts in Type of Containers

The traditional distribution pattern is being altered in still another respect: The gradual but increasing replacement of glass containers by paper cartons, especially with respect to the sale of fluid milk, for which we have accurate data. Tables 45 and 46 present this shift through a comparison of total sales in each type of container at both the wholesale and retail levels for the months of May and June from 1946 through 1950 and for each month during the period January 1948 through June 1950. Paper containers were used for 5.26 percent of total sales in May 1946, 8.50 percent in May 1947, 14.20 percent in May 1948, 18.05 percent in May 1949, and 21.33 percent in May 1950. The major part of this replacement occurred in wholesale sales. Of all sales, 5 percent were in paper containers at the wholesale level in May 1946, and by May 1950 this proportion had increased to 19.70 percent of all fluid milk sales. Retail sales are predominantly in glass containers, although a slowly increasing amount of home-delivered (that is, retail) fluid milk is being sold in paper containers. In June 1950, 78.69 percent of total fluid sales were in glass containers and 21.31 percent in paper containers; the sales in

Table 44.--Average daily sales of fluid milk: Volume and percentage sold at wholesale and retail, Minneapolis and suburbs and St. Paul and suburbs, selected months in 1946, 1947, and 1950 and the years 1948 and 1949

Selected months--	Total market	Minneapolis			St. Paul		
		Total	Wholesale	Retail	Total	Wholesale	Retail
	Volume of fluid milk sales						
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
1946	935,137	596,366	278,256	318,110	338,771	172,427	166,344
1947	904,089	576,794	276,585	300,209	327,295	172,144	155,151
1948	911,356	587,383	284,222	303,161	323,973	175,576	148,397
1949	932,513	598,546	288,079	310,467	333,967	189,819	144,148
1950	966,302	624,358	296,561	327,797	341,944	197,322	144,622
	Percentage of total fluid sales in market						
	Percent	Percent			Percent		
1946	100.00	63.77			36.23		
1947	100.00	63.80			36.20		
1948	100.00	64.45			35.55		
1949	100.00	64.19			35.81		
1950	100.00	64.61			35.39		
	Percentage of fluid sales at wholesale and retail in each city						
		Percent	Percent	Percent	Percent	Percent	Percent
1946		100.00	46.66	53.34	100.00	50.90	49.10
1947		100.00	47.95	52.05	100.00	52.60	47.40
1948		100.00	48.39	51.61	100.00	54.19	45.81
1949		100.00	48.13	51.87	100.00	56.84	43.16
1950		100.00	47.50	52.50	100.00	57.71	42.29

Compiled from records of the Market Administrator.

Table 45.--Percentage of fluid milk sold in glass and paper containers, at wholesale and retail, Minneapolis-St. Paul marketing area, May and June 1946-50

Year and month	Total sales of fluid milk		Wholesale sales		Retail sales	
	Glass containers	Paper containers	Glass containers	Paper containers	Glass containers	Paper containers
	Percent	Percent	Percent	Percent	Percent	Percent
1946						
May	94.74	5.26	43.69	5.00	51.05	.26
June	93.97	6.03	42.75	4.92	51.22	1.11
1947						
May	91.50	8.50	41.80	8.08	49.70	.42
June	90.71	9.29	40.31	8.95	50.40	.34
1948						
May	85.80	14.20	35.88	13.86	49.92	.34
June	85.38	14.62	35.88	14.27	49.50	.35
1949						
May	81.95	18.05	33.23	16.69	48.72	1.36
June	80.73	19.27	33.37	18.00	47.36	1.27
1950						
May	78.67	21.33	31.34	19.70	47.33	1.63
June	78.69	21.31	31.45	19.61	47.24	1.70

Compiled from records of the Market Administrator.

Table 46.--Percentage of fluid milk sales sold in glass and paper containers at wholesale and retail, Minneapolis-St. Paul marketing area, January 1948 - June 1950

Year and Month	Total sales of fluid milk		Wholesale sales		Retail sales	
	Glass containers	Paper containers	Glass containers	Paper containers	Glass containers	Paper containers
	Percent	Percent	Percent	Percent	Percent	Percent
1948						
January	84.47	15.53	33.71	15.16	50.76	0.37
February	84.88	15.12	33.54	14.80	51.34	0.32
March	85.53	14.47	35.95	14.15	49.58	0.32
April	86.19	13.81	36.47	13.39	49.72	0.42
May	85.80	14.20	35.88	13.86	49.92	0.34
June	85.38	14.62	35.88	14.27	49.50	0.35
July	83.75	16.25	35.99	15.83	47.76	0.42
August	84.38	15.62	36.00	15.18	48.38	0.44
September	84.30	15.70	37.12	15.29	47.18	0.41
October	83.24	16.76	35.97	15.51	47.27	1.25
November	83.96	16.04	36.40	14.82	47.56	1.22
December	82.16	17.84	33.70	16.52	48.46	1.32
Average	84.49	15.51	35.55	14.91	48.94	0.60
1949						
January	82.67	17.33	33.92	15.99	48.75	1.34
February	82.84	17.16	34.62	15.79	48.22	1.37
March	82.63	17.37	34.24	15.97	48.39	1.40
April	81.65	18.35	33.45	17.03	48.20	1.32
May	81.95	18.05	33.23	16.69	48.72	1.36
June	80.73	19.27	33.37	18.00	47.36	1.27
July	80.57	19.43	33.61	18.14	46.96	1.29
August	80.18	19.82	34.03	18.45	46.15	1.37
September	80.51	19.49	34.34	18.13	46.17	1.36
October	80.74	19.26	34.94	17.85	45.80	1.41
November	80.38	19.62	33.86	18.20	46.52	1.42
December	79.77	20.23	32.27	18.78	47.50	1.45
Average	81.21	18.79	33.82	17.43	47.39	1.36
1950						
January	79.43	20.57	31.56	19.07	47.87	1.50
February	79.17	20.83	32.18	19.30	46.99	1.53
March	78.89	21.11	31.94	19.62	46.95	1.49
April	78.75	21.25	31.19	19.72	47.56	1.53
May	78.67	21.33	31.34	19.70	47.33	1.63
June	78.69	21.31	31.45	19.61	47.24	1.70
Average	78.93	21.07	31.60	19.51	47.33	1.56

Compiled from the records of the Market Administrator.

paper comprised 19.61 percent of those made at the wholesale (including stores) level and only 1.70 percent of those made at the home-delivered level.

The rapidity with which the market has been shifting to paper containers is emphasized and partially explained by the manner in which distributors have been converting their bottling operations to include paper containers. The following table indicates that no handlers in the market sold milk in paper cartons exclusively. In June 1946, 23 of the 35 handlers then in the market sold milk exclusively in glass containers, the other 12 handlers using both paper and glass. This ratio changed enough that by June 1950 only 8 handlers out of a total of 28 sold milk in glass containers exclusively, the remaining 20 handlers selling fluid products in both paper and glass containers.

Table 47.--Number of handlers classified according to type of containers used in bottling fluid milk, month of June 1946-50

Handlers using --	1946	1947	1948	1949	1950
	Number	Number	Number	Number	Number
Exclusively glass containers	23	23	16	9	8
Exclusively paper containers	0	0	0	0	0
Both paper and glass containers	12	11	15	19	20
Total handlers in market	35	34	31	28	28

Changes in Types of Milk Sold

Although milk itself is customarily thought of as a homogeneous product, the types of milk sold by distributors (as distinguished from grades of milk) have increased greatly in the last two decades. We have already noted that the sales of certified and raw milk declined greatly since 1929, and have now disappeared from the local market. Sales of special milk (in this case milk with a higher butterfat content produced under special herd conditions) has also decreased in relative importance, but more significant, perhaps, is the current shift from "regular" to homogenized and Vitamin D homogenized milk. These shifts are indicated by the data in tables 48 and 49. The decline in importance of regular milk has been fairly steady since data became available in 1946, dropping from an average of 75 percent of all fluid sales in May 1946 to 50 percent in June 1950. The greatest shift took place in 1949, most of the increase going into Vitamin D homogenized milks rather than into unfortified but homogenized milk.

Table 48.—Types of fluid milk sold by distributors, expressed as percentages of total fluid milk sales in area, Minneapolis-St. Paul marketing area, May and June 1946-50

Year and month	Regular milk	Homogenized	Vitamin D-homogenized	Special milk
	Percent	Percent	Percent	Percent
1946				
May	75.39	4.31	10.01	10.29
June	71.93	10.18	7.01	10.88
1947				
May	71.99	11.81	7.67	8.53
June	72.80	5.43	13.04	8.73
1948				
May	65.52	13.78	13.12	7.58
June	68.65	13.80	10.07	7.48
1949				
May	57.87	16.15	19.23	6.75
June	56.94	19.22	17.10	6.74
1950				
May	51.66	22.30	20.39	5.65
June	50.12	22.84	21.40	5.64

Compiled from records of the Market Administrator.

Table 49.--Types of fluid milk sold by distributors, expressed as a percentage of total fluid milk sales in area, Minneapolis-St. Paul marketing area, January 1948 - June 1950

Year and month	Regular milk	Homogenized	Vitamin D-homogenized	Special milk
	Percent	Percent	Percent	Percent
1948				
January	69.32	15.89	7.85	6.94
February	64.32	19.04	9.76	6.88
March	66.14	16.22	10.08	7.56
April	64.36	17.75	10.30	7.59
May	65.52	13.78	13.12	7.58
June	68.65	13.80	10.07	7.48
July	66.82	15.20	10.31	7.67
August	67.27	14.92	10.09	7.72
September	66.77	14.48	11.34	7.41
October	64.91	17.33	10.60	7.16
November	64.43	17.40	10.77	7.40
December	63.43	16.99	12.46	7.12
Average	65.99	16.27	10.37	7.37
1949				
January	63.99	17.08	12.06	6.87
February	63.31	17.73	12.13	6.83
March	59.62	21.15	12.41	6.82
April	57.84	19.15	16.09	6.92
May	57.87	16.15	19.23	6.75
June	56.94	19.22	17.10	6.74
July	55.95	20.23	17.12	6.70
August	56.05	19.18	18.35	6.42
September	55.70	19.52	18.56	6.22
October	56.55	20.40	17.07	5.98
November	56.12	19.64	18.26	5.98
December	54.68	19.54	19.94	5.84
Average	57.86	19.31	16.34	6.49
1950				
January	53.61	20.97	19.53	5.89
February	52.86	21.80	19.51	5.83
March	52.32	21.23	20.74	5.71
April	51.89	22.29	20.06	5.76
May	51.66	22.30	20.39	5.65
June	50.12	22.84	21.40	5.64
Average	52.09	21.89	20.27	5.75

Compiled from records of the Market Administrator.

While these changes in the importance of various types of whole milk were taking place, the total volume of whole milks was decreasing relative to the newer types of fluid products made from skim milk. This shift is revealed in part by tables 22 and 23. These data indicate that skim milk, buttermilk and flavored milk drinks as a group totaled 16,124,840 pounds and comprised 3.8 percent of total Class I sales in 1946; by 1950 the sales efforts concentrated upon such products by distributors helped increase sales of these products to a total of 20,087,559 pounds (about 5.0 percent of Class I sales).

Distributors also have assigned individual brand names to most of these products, and they are advertised as such to permit a greater degree of differentiation between the products sold by different dealers. This differentiation is based more on the methods of processing and the types of nutritive supplements added to the skim milk than on the differences in the quality of the basic ingredient. Except for milk of higher butterfat content produced by special herds, the Twin City distributors have not assigned brand names to sales of whole milk to the extent that they have been assigned in some other markets. The fact that nearly all distributors receive nearly all their raw milk from the same source - the TCMPA - probably nullifies any substantial grounds upon which such differentiation can be practiced on whole milk sales in the Twin City market.

Quantity Discount Plans for Consumers

A goal of many persons concerned with the distribution system as a whole is to introduce and encourage distributive efficiencies that will lower prices (of milk, for example) to consumers without reducing the level of prices to producers or the level of returns to distributors. Such new efficiencies could also result in the sharing of the benefits among producers, distributors, and consumers in varying proportions. Although there are several approaches to achieving this goal, the distributors in the Twin City market have received considerable publicity for a unique system of quantity discounts on deliveries of fluid milk and cream. This system, generally known as the "Elwell plan" (see footnote 10/, p.177), was formulated in the early 1930's and has been operative in the market from time to time since March 1, 1939, when it was put into effect.

The essence of the plan is that the delivered price per quart of milk is influenced by two costs -- the cost of the milk, including processing and bottling at the plant, and the cost of delivering the bottled product to the purchaser. The basic cost of milk is set at so much a quart at the plant and the cost of delivery is calculated on the basis of so much for each stop of the delivery vehicle. These costs are then presented as separate items, and the price of milk to any user is determined by the number of quarts delivered at a single delivery. At the time the plan was advertised publicly in a local newspaper in 1937, the prices used in table 50 were used to illustrate the workings of the quantity discount system. It will be noted that persons who buy but one quart at a delivery pay more than under the conventional pricing system, but that on purchases of three quarts or more at one delivery, the saving becomes fairly substantial in size.

The success of this plan was predicated, of course, upon a sizable reduction in the costs of milk delivery--a condition that could be achieved only by a consolidation of milk routes, the elimination of unprofitable stops, an increase in the number of units delivered by each milk wagon driver, and a resultant decrease in the amount of delivery equipment and the number of drivers employed by distributors. When the plan was announced in 1937, it met with the immediate and aggressive opposition of the milk wagon drivers union. The controversy was carried on in successive advertisements in Minneapolis papers, and was temporarily resolved by a decision of the distributor not to institute the plan at that time. In its place was substituted a plan that granted to an individual purchaser a 20 percent discount on all purchases of milk and cream in excess of $4 a month.

Table 50.--The "Elwell" plan of quantity discounts on delivered sales of fluid milk and cream when milk regularly retails for 11 cents per quart

Quarts of milk (Number)	Price of milk	Cost of service	Total cost	Cost per quart	Difference in total cost from standard plan
	Cents	Cents	Cents	Cents	Cents
1	9	3	12	12	+ 1
2	18	3	21	10 1/2	- 1
3	27	3	30	10	- 3
4	36	3	39	9 3/4	- 5
5	45	3	48	9 3/5	- 7
6	54	3	57	9 1/2	- 9

The plan, when put into effect, provided for a 4 cent differential between the price of the first and the subsequent quarts of milk or extra dairy products, such as cream, skim milk, or buttermilk, delivered at one time. The plan has been used almost continuously in Minneapolis since it was put into effect, although the difference between the first and the subsequent quarts has been set at 3 cents, 2 cents, and 1 cent per unit during different periods of time.

The distributors and interests who opposed the plan did so for a variety of reasons. Those most frequently mentioned were the following:

(1) Many distributors preferred the option to grant selective discounts for purchases in quantity rather than grant discounts to all quantity buyers.

(2) Small customers protested against the discrimination.

(3) Numerous distributors felt it would be impossible to check the operations of milk wagon drivers who might collect the higher price from consumers but report the sales as having been made at the lower price. A suggested remedy for this possibility is to have the driver's pay made up of all monies received over a platform price at the plant, which pay would include the cost of operating the truck.

(4) Some persons felt that in comparing prices as between markets, the price for 1 quart of milk would be used as the prevailing price for milk. Because the prevailing price would be much less, the amount depending upon the quantity taken, it was feared the Twin City market would compare unfavorably with other markets.

(5) Stores protested that distributors who also supplied them with milk competed more actively for retail sales. This objection was valid indeed, because the discount plan removed part, if not most, of the price advantage that consumers gained by purchasing milk from stores.

Many persons also recognized desirable aspects in the plan, and favored it for the following reasons:

(1) The pricing procedure would correct the existing circumstances under which distributors were losing money on small customers and taking too large a margin on customers who purchased milk in large quantities. In other words, consumers would pay nearer the actual costs involved for services rendered.

(2) The plan complemented the increased use of better refrigeration facilities in the home and the desirability of lowering marketing margins by encouraging every-other-day deliveries.

(3) The plan would encourage a greater use of home-delivery facilities and reduce the price advantage that large consumers had realized by purchasing milk from stores. The plan made the every-other-day delivery system more effective by discouraging the consumer practice of having two different distributors deliver milk on alternate days.

The plan has had several effects upon the distribution of milk in Minneapolis. First of all, it has tended to lower distributors' margins and to ensure that all quantity buyers of home-delivered milk receive similar price discounts. Second, it has tended to direct small buyers to use stores and quantity buyers to use home deliveries. Third, the plan has played an important part in permitting retail deliveries of milk in Minneapolis to compete with store sales. In fact, data presented earlier in this report indicate that sales through stores and wholesale outlets during the period 1946-49 have not increased in Minneapolis but have increased materially in St. Paul, where the plan is not in effect.

Costs and Margins of Milk Distribution at Wholesale and Retail

The size and the changes in the marketing margins realized by distributors are probably among the most studied aspects of fluid milk distribution. A great amount of time and resources have been devoted to the problem of how to reduce the spread between the price paid by consumers and the price received by producers; the producer hopes that any reductions in marketing costs will be reflected back in the form of higher prices for his production while the consumer is interested in such reductions as a means of lowering the retail price of milk and milk products.

The calculation of an accurate marketing margin is an extremely detailed and difficult task. The results of such analyses are also subject to widespread misinterpretation. Distributors sell a wide variety of fluid products. They realize a different margin on each product and a different margin on the same product, this depending upon whether it is sold at wholesale or retail and whether purchased in large or small quantities. Under these circumstances, a wide margin on one product sold in one manner does not infer a wide margin of profit.

In addition, it should be pointed out that in the local market the TCMPA performs a number of marketing services for its distributors, the cost of which is included in the distributors' paying price to the producers' association. Under these circumstances, the margin needed to cover the cost of the services is "hidden" in the dealers' cost price for milk rather than appearing in the marketing margin taken by distributors. This practice lowers the size of the marketing margin needed by local distributors, and tends to favor them in many intermarket comparisons of the amount of gross margins taken by fluid milk distributors. On the other hand, the use of the "Elwell plan" in Minneapolis tends to complicate the determination of an average retail price. Because the price of the second and succeeding quarts of milk purchased at one delivery declines significantly under this plan, the prevailing average price per quart is not the price of the first quart of milk, but depends upon the quantity taken at one delivery. For purposes of this study, it is estimated that the average retail delivery is 4 quarts, every other day.

A detailed study of marketing margins for fluid milk in the Twin City area is beyond the scope of this study, but an attempt is made to use available data for retail and wholesale deliveries of 3.5 percent milk and to calculate an average marketing margin on this item for each city for the years 1919 through 1950, subject to the limitations stated above. Another caution must be introduced at this point. The price paid producers by distributors is the price paid the TCMPA (and all producer groups for the years 1946-50) for milk used only for fluid purposes. It does not represent the price paid individual producers by the association, for the association must blend the returns from the sale of milk for such fluid purposes with its returns from the sale of manufactured dairy products made from the surplus milk that could not be sold for fluid purposes.

The changes in the average yearly retail and wholesale price for a quart of milk in Minneapolis and St. Paul are presented in table 51, together with the price paid the producers and the apparent margin on retail and wholesale sales. The marketing margin is available to the distributor for use in paying costs of processing and distributing, and does not represent net profits. The marketing margin on retail sales in Minneapolis varied from 4.63 cents a quart in 1933 to 8.58 cents a quart in 1948; the same margin on wholesale sales varied from 3.06 cents to 7.22 cents for the same years. The margins on retail sales, expressed as a percentage of the consumer's dollar expenditure for home deliveries of fluid milk, are presented in figure 10. The data in this chart emphasize that the distributors' margins remained relatively fixed from year to year and, as a consequence, represent a larger proportion of the consumer's dollar in periods of declining prices. These data also indicate (1) that farmers bore the brunt of the price declines, and (2) that farmers also were among the first to benefit from periods of increased consumer purchasing power and strong demands for fluid milk.

The relatively low level of distributors' margins during the wartime period 1941-46 does not necessarily reflect unprofitable operations; the adoption of every-other-day deliveries and the sizable increases in volume of business occasioned by the strong demand for fluid milk resulted in distributors obtaining a good margin of profit in spite of having no increases in absolute margins. Higher costs, principally for labor, have been a factor in the increased margins since that time, although the continuation of every-other-day deliveries probably has held down the price of milk to some extent.

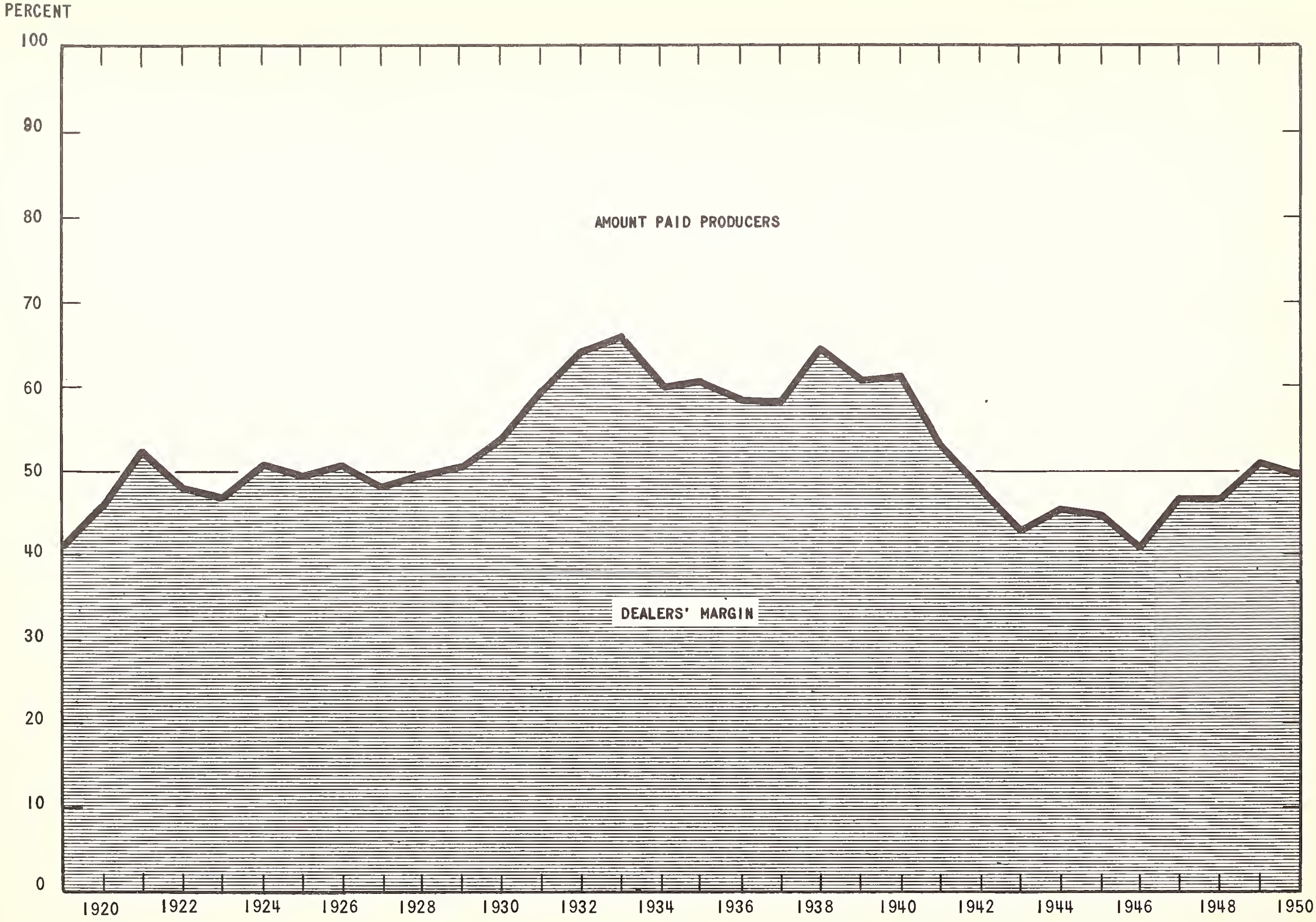

FIGURE 10. -- AVERAGE DISTRIBUTORS' MARGIN PER QUART OF 3.5 PERCENT MILK DELIVERED TO HOMES, EXPRESSED AS A PERCENT OF THE CONSUMER'S DOLLAR, MINNEAPOLIS, 1919-50

Table 51.--Average retail and wholesale prices, dealers' buying prices, handlers' apparent margins on retail and wholesale sales, per quart of 3.5 percent milk, Minneapolis-St. Paul, Minn., 1919-50

Year	Average resale prices 1/				Dealers' buying price		Apparent margins			
	Retail (Delivered)		Wholesale				Retail sales		Wholesale sales	
	Mpls.	St. Paul	Mpls.	St. Paul	Mpls.	St. Paul	Mpls.	St. Paul	Mpls.	St. Paul
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1919	12.79	12.71	11.33	---	7.55	7.55	5.24	5.16	3.78	---
1920	13.42	13.56	11.92	---	7.23	7.23	6.19	6.33	4.69	---
1921	11.04	11.29	9.75	---	5.27	5.27	5.77	6.02	4.48	---
1922	10.38	10.26	8.75	---	5.40	5.40	4.48	4.86	3.35	---
1923	11.42	11.42	9.85	---	6.06	6.06	5.36	5.36	3.79	---
1924	10.96	10.75	9.44	---	5.40	5.40	5.56	5.35	4.04	---
1925	11.33	11.33	9.76	---	5.68	5.68	5.65	5.65	4.08	---
1926	11.08	11.08	9.67	---	5.48	5.48	5.60	5.60	4.19	---
1927	11.17	11.17	9.46	---	5.78	5.78	5.39	5.39	3.68	---
1928	12.00	12.00	10.42	---	6.02	6.02	5.98	5.98	4.40	---
1929	12.00	12.00	10.23	---	5.94	5.94	6.06	6.06	4.29	---
1930	11.00	11.00	9.52	---	5.05	5.05	5.95	5.95	4.47	---
1931	9.92	9.92	8.31	---	4.00	4.04	5.92	5.88	4.31	---
1932	8.08	8.67	6.27	---	2.88	3.16	5.20	5.51	3.39	---
1933	7.02	7.50	5.45	---	2.39	2.69	4.63	4.81	3.06	---
1934	9.21	9.21	7.46	---	3.68	3.68	5.53	5.53	3.78	---
1935	10.00	10.00	8.25	---	3.98	3.98	6.02	6.02	4.27	---
1936	10.42	10.42	8.67	---	4.32	4.32	6.10	6.10	4.35	---
1937	11.00	11.00	9.25	---	4.60	4.60	6.40	6.40	4.65	---
1938	11.00	11.00	8.50	---	3.91	3.91	7.09	7.09	4.59	---
1939	9.83	11.00	8.15	---	3.87	3.87	5.96	7.13	4.28	---
1940	10.12	10.36	7.83	---	3.94	3.94	6.18	6.42	3.89	---
1941	9.91	11.25	8.67	---	4.67	4.67	5.24	6.58	4.00	---
1942	10.72	12.00	10.22	---	5.59	5.59	5.13	6.41	4.63	---
1943	11.63	11.63	11.00	11.00	6.64	6.64	4.99	4.09	4.36	4.36
1944	12.25	12.25	10.96	11.00	6.71	6.71	5.54	5.54	4.25	4.29
1945	12.25	12.25	10.50	10.50	6.80	6.80	5.45	5.45	3.70	3.70
1946	14.56	14.56	12.88	12.74	8.69	86.9	5.87	5.87	4.19	4.05
1947	16.80	17.17	15.24	14.87	8.94	8.94	7.86	8.23	6.30	5.93
1948	18.46	19.00	17.10	16.50	9.88	9.88	8.58	9.12	7.22	6.62
1949	16.57	17.07	15.13	14.57	8.16	8.16	8.41	8.91	6.97	6.41
1950	16.07	17.00	14.57	14.50	8.05	8.05	8.02	8.95	6.52	6.45

1/ Based on the prevailing price. No data are available on the extent to which handlers sold milk at discounts below the prevailing price.

Compiled from records of the Market Administrator and data in Dairy Branch, PMA.

IX. EVALUATION

Background of Regulations

Since 1933 the Federal Government, through the medium of milk marketing agreements, licenses, and orders, has played an increasingly more effective role in the pricing and marketing of milk in the major fluid milk consuming centers of the United States. Moreover, the Federal regulatory program is an expanding one, additional markets continually requesting milk orders to replace, modify, or strengthen existing price-determining methods. The twin cities of Minneapolis and St. Paul, Minn., was the fourth market to adopt a Federal milk marketing agreement and license. Since that time the Twin City market has been under continuous Federal regulation, and has utilized or been subject to each distinct type of milk market control that was promulgated. The market also comprises one of the larger milk-consuming areas of the Nation, and at the same time is located in the midst of the most important dairy region of the United States. These facts make it desirable to attempt an evaluation of the historical and economic effects of Federal regulation upon the marketing structure for fluid milk and its products in the Twin City marketing area.

The characteristics of whole milk, together with the application of local health and sanitation standards (the earliest form of regulation of the fluid milk industry), create serious problems in the marketing and pricing of fluid milk. Generally speaking, each consuming center has its separate, localized source of supply, and prices are determined, within limits, by negotiation rather than by the interplay of competitive forces operating on a more Nation-wide basis. Thus, fluid milk producers are closely identified with an individual market and with an independent pricing system susceptible to a certain degree of instability and local influence. Until the early 1900's, these price negotiations were between farmers and small retail distributors, but farmer-distributors furnished keen competition for the small retail distributors and thereby played an important role in setting the price level. Milk distribution later became a specialized business for large dealers, and farmers shifted from being farmer-distributors to producing milk exclusively. The result was that distributors were often in a powerful position to force producers' prices downward by pitting producers against one another.

Farmer cooperatives were encouraged as the best method of strengthening the bargaining position of the individual farmers in their price negotiations with large metropolitan distributors, and they succeeded fairly well for a time in equalizing the bargaining power of the producers against that of the distributors. The associations developed such techniques as the "classified price plan" and pooling arrangements to improve the methods for pricing of milk and the distribution of the returns to their producer-members. Although these new methods became fairly well established as an industry pattern, they tended to break down because of the inherent advantages that might accrue to those producers and dealers who refused to participate in the plans. This was a serious weakness in the fluid milk marketing structure of that time, although it did not become too apparent until the impact of the widespread depression of the early 1930's. Producers' fluid milk prices declined sharply in all markets at that time, including those markets serviced by strong producer cooperatives. The prices for manufactured dairy products also declined sharply during this period, and producers of manufacturing milk began to exert special efforts to sell at least part of their production in nearby fluid markets. The fluid markets became disorganized and chaotic, with the result that producer groups demanded some sort of regulation by the Federal Government.

Congress sought to relieve the effects of the depression upon the agricultural sector of the economy by passing the Emergency Agricultural Relief Act, in 1933, title I of which is commonly known as the Agricultural Adjustment Act of 1933. This enabling act provided authority for the Secretary of Agriculture to regulate the marketing of milk, along with other farm products, in such a way as to stabilize the markets and increase returns to farmers. This was to be accomplished by having the Secretary of Agriculture enter into marketing agreements with persons or groups who handled, in interstate commerce, any agricultural commodity. As later promulgated, the marketing agreements for milk contained: (1) A schedule of minimum prices that had to be paid producers for milk; (2) a schedule of exact resale prices to consumers; and (3) a list of unfair trade practices that were to be outlawed. These agreements could be enforced only on those parties who signed them, however, so the Secretary was further authorized to issue a license that imposed the terms of the agreement upon all handlers (distributors) in the market.

The Twin City Market

The local fluid market is in the center of an intensive milk production area in which there is little or no competition from other cities for available milk supplies. Estimates indicate that six to eight times as much milk is produced within 50 miles of the center of the Twin City area as is consumed for fluid uses by the one million persons residing therein. Another significant aspect of the supply side of the local fluid milk market is the overwhelming importance of milk producers' cooperative associations, the most important of which is the Twin City Milk Producers Association. Available data indicate that since 1923 (except for 1932) the TCMPA has supplied milk to all the large distributors in the two cities, and that this volume has amounted to between 80 and 90 percent of the total milk consumed in the market. While achieving this position, the association sold distributors only the milk for which they were willing to pay the fluid milk price, and withheld the remainder for manufacture into dairy products in association-owned plants.

Conditions in the Market Prior to Federal Regulation

During the early 1930's there were approximately 156 creameries and cheese factories located within 50 miles of the Twin Cities, and the fall in prices for manufactured dairy products during that period, coupled with the negligible value of skim milk at either the farm or plant, accentuated the relative profitability of the higher-priced fluid milk market and led to increased efforts on the part of the outlying creameries to obtain similar outlets. Two conditions combined to make entry into the fluid markets easy at that time, particularly in Minneapolis: (1) The TCMPA did not reduce fluid prices to distributors in proportions comparable to the price declines that had occurred in butter and cheese; and (2) the milk ordinance then in effect in Minneapolis contained no provisions for farm inspection, a factor that made Minneapolis an "open city" for any of the 156 outlying creameries that might wish to enter the fluid market. St. Paul required farm inspection and the holding of an official city permit to ship milk. The farm inspection was onerous, and producers preferred to sell to Minneapolis dealers when they could, rather than to seek a permit to sell in St. Paul. The premium for fluid milk encouraged outlying creameries to seek pasteurization permits or to contract to sell their milk to new dealers within the city. After receiving pasteurization permits the plants bottled milk and hauled it to the Twin Cities, where final distribution was effected through newly established distributors or peddlers, or both. These peddlers were prohibited by ordinance from operating in St. Paul, so Minneapolis distributors received the full brunt of their competition.

The companies that did not purchase milk from the association during the 1931-32 period paid prices ranging from 15 to 20 cents a hundredweight less than that of the TCMPA-contracting distributors. The price competition began to affect seriously the larger distributors, however, and the TCMPA reduced prices to meet the competition. The market conflict continued until milk was sold to Minneapolis distributors for 50 cents a hundredweight. This price had prevailed little more than a month when 5 of the 11 distributors who previously relied on "outside" milk signed long-term full-supply contracts with the TCMPA. The Minneapolis City Council passed several ordinances during this period that were designed to restore stability to the fluid market; one was a new milk ordinance that required farm inspection and permits and the pasteurization of milk within the city limits. The effect of these ordinances was to limit the methods by which outlying producers and pasteurizers were able to enter the fluid milk market and precipitate unrest and unstable marketing conditions. The decision of the 5 distributors to purchase milk from the TCMPA ended the market conflict, and the dealers buying price was restored to a reasonable level of $1.40 a hundredweight. The aftermath of the efforts of outlying creameries to enter the fluid milk market and the price war was to establish more firmly the dominant position of the TCMPA.

Federal Regulation by Milk Licenses and Agreements, 1933-44

The enabling act had been in effect only a little more than a month when the Twin City Milk Producers Association attempted to obtain a Federal marketing agreement and license for the Twin City milkshed. The market had already been stabilized after a serious milk "price war" in early 1933--a "price war" that was the culmination of disorganized and chaotic marketing conditions that had prevailed in the local market following the sharp decline in butter and cheese prices in the early 1930's--but there was doubt that the stability would persist.

The initial regulation went into effect on September 2, 1933, and consisted of a marketing agreement between the Secretary of Agriculture, the TCMPA, and 25 fluid milk distributors from Minneapolis and St. Paul and a Federal milk license that imposed the terms of the marketing agreement upon all parties serving the Twin City fluid milk market. As adopted, the agreement and license (No. 5) were the program of the local market interests, and provided for: (1) A minimum price to producers; (2) a classification of distributors and a detailed pricing procedure to insure that distributors in each classification paid identical prices for fluid milk and cream; (3) a schedule of exact wholesale and retail prices that distributors could charge for pasteurized milk and cream in various-sized containers; (4) an elaborate schedule of fair trade practices limiting the competitive activities of all distributors; (5) a local committee to administer the regulation; and (6) a license through which the terms of the regulation were imposed upon all distributors.

The agreement and license was amended once, on November 29, 1933, in order to establish an increase in retail and producer prices. The Twin City Agreement-License (No. 5) remained in high favor and in full effect after the amendment, and both producers and distributors were pleased with its operation.

The original agreements were all canceled by the Secretary of Agriculture in January 1934, and the licenses were modified to carry out the Agricultural Adjustment Administration's new policy of not establishing and enforcing (or attempting to enforce) a complete schedule of distributors' wholesale and retail prices. The new policy allowed protection against certain unfair competitive practices, however, and permitted the establishment of minimum wholesale and retail prices. Local market interests objected strenuously to this change, but the national policy had been set and the original program was replaced by a new Federal license (No. 32) on February 16, 1934. An important administrative change in the new license was the appointment of a representative to perform the various functions assigned to the Secretary of Agriculture--a forerunner of the present-day milk market administrator.

The Twin City License No. 32 proved to be an effective means of regulating the price of producer milk during the year and one-half from February 1934 through August 1935. It was amended five times during that period; the net effect of these changes was to strip the license of most of its regulatory provisions. The minimum retail and wholesale price schedule was eliminated on June 5, 1935, and the power to raise or lower the specified minimum producer price was taken away by an amendment to the enabling act on August 26, 1935, that substituted orders for licenses and provided that existing licenses could be continued but not changed in any respect.

The abandonment of the Federal milk licensing program on August 26, 1935, placed the principal market interests in a difficult position. The license had worked well in the local market, yet the new national program was to replace licenses with "orders" promulgated under the new amendments to the enabling act. The TCMPA would have accepted this change, but the USDA hesitated to apply an order to the Twin City area because the market would not qualify as an interstate market as that concept was interpreted in court decisions at that time. The license did provide a "floor" to prices, however, and afforded the only means of retaining the Federal representative to supervise the milk buying and pricing practices of various distributors. The major market interests considered his presence an important requisite to continued market stability, so License No. 32 continued to play a role in the pricing of fluid milk and cream for a period of about 8 years after the licenses had been "frozen," and the USDA declined to enforce their provisions by court action.

Federal Regulation During World War II, through October 1945

Beginning with World War II and the emergency conditions of 1941-42, OPA price controls on fluid milk and cream at retail and wholesale levels, and on raw milk at the producer level, superseded the license program in the pricing of milk in the Twin City market. At the same time, War Food Administration Orders affected the marketing practices of distributors by restricting the sales and utilization of fluid milk and cream.

The General Maximum Price Regulation became effective on May 18, 1942, and "froze" the retail prices of cost-of-living items, including milk, at no higher than the level that prevailed during the base period of March 1 to 31, 1942. This regulation fixed the retail prices for fresh (fluid) milk sold in glass or paper containers in the Twin City market at 13 cents for the first quart of milk taken at one delivery and 12 cents for each extra quart taken at the same time. Bulk sales of milk and cream to wholesale outlets were brought under price controls in October 1942.

Prices paid producers for raw unprocessed milk destined for human consumption in fluid form were not subject to price controls until February 13, 1943, or about 1 year after similar controls were established on retail and wholesale sales of fluid milk by distributors. The ceiling price for producer milk was set at the highest prices paid by such purchasers for milk received during January 1943. The ceiling prices were changed three times between 1943 and 1945, yet producer interests were dissatisfied because the regulations did not provide for prices that reflected the normal differentials between fluid milk and milk used for manufactured dairy products. In addition, they contended that the regulations did not provide adequate seasonal variations in price at the producer level.

An important provision of the Emergency Price Control Act, at least from the standpoint of developments in the Twin City market, was that the maximum price to producers in markets regulated by Federal orders be not less than the minimum price established by a Federal milk order. This provision permitted a measure of exemption from OPA ceilings on producer prices. The TCMPA began to consider the advisability of a Federal order in 1944 after it failed to get approval for adjustments in producer prices from the OPA. The wartime changes in the interstate movement of milk and milk products, coupled with recent court decisions which had interpreted more broadly the interstate commerce clause of the United States Constitution, had already removed the only deterrent to promulgating a Federal order for the Twin City area.

Federal Regulation by Milk Orders, 1945-50

The association formally requested the issuance of a Federal marketing agreement and order in January 1945. The decision of the TCMPA to seek a Federal order was also based on two other considerations: (1) A recognition that the supply of whole milk marketed in the production area had increased greatly under wartime demands and (2) a notification that the USDA intended to cancel the inactive Federal license that had been the basis for Federal regulation in the market since 1934.

None of the distributors located in the Twin Cities, nor any representatives of consumer interests, participated in the public hearing held at St. Paul, Minn., from May 22 to 28, 1945. Most of the testimony was favorable to the issuance of an agreement and order except for a controversy between the TCMPA and two outlying handlers over (1) the classification and pricing of fluid milk sold to users beyond 100 miles of the local marketing area, and (2) the method for calculating the location differential that affected the price these handlers would be required to pay producers. The regulation, which became effective on November 3, 1945, provided for an average price increase to producers of 8 cents a hundredweight above the OPA ceiling price. It had no immediate effect upon resale prices, however, principally because distributors in the market absorbed this increase in milk costs without requesting an increase in the OPA ceiling price on their wholesale and retail sales.

The original Twin City agreement and order remained effective and unchanged until December 23, 1948, except for the suspension of the seasonal price change for the month of June 1946. By early 1948, when the regulation had been in effect for more than 2 years, nearly all market interests, including the market administrator, wanted certain changes made in its provisions. The public hearing was held in the Twin Cities between May 10 and 12, 1948. In contrast to the 1945 experience, local distributors took an active part in presenting evidence at the hearing in support of their own proposals, and, in some cases, in opposition to the stand of their supplying producers as presented by the TCMPA.

The amended order contained several important changes, and became effective on February 1, 1949. The changes included: (1) A higher producers' price, obtained by increasing the seasonal Class I differential over manufacturing values to 50 cents a hundredweight from January through June, to 70 cents during July and December, and to $1 a hundredweight from August through November; (2) a classification plan that classified natural buttermilk, eggnog, aerated cream, and related products as Class I products; (3) an increased rate and revised mileage provisions applicable to the location differentials for both handlers and producers; and (4) a restriction in the scope of the definition of a "handler."

The prices of dairy products "broke" shortly after the 1948 hearings but before issuance of the new order, and the new seasonal differentials of $1 a hundredweight for Class I milk during August through November soon encouraged outlying producer groups to attempt to obtain a share of the local fluid market. In an effort to lower this $1 differential before it became operative again in 1950, the TCMPA requested the USDA to call a public hearing and consider proposals to amend the order. The public hearing was held at Minneapolis on April 13 and 14, 1950, and resembled the 1945 hearing in that there were disagreements between the producer group and the distributors.

The revised order, effective on August 16, 1950, included the following changes: (1) A reduction in the level of minimum prices to farmers for milk in both Class I and Class II; (2) a classification of flavored milk and flavored milk drinks in hermetically sealed containers as Class II usage; (3) a classification of all unaccounted-for milk as Class I usage; and (4) a clarification of the status of producer-handlers selling skim milk or cream to other handlers in the area. The order in this form was still in effect on December 31, 1950.

Changes in Market Structure During the Period of Federal Regulation

Chapter VIII of this report contains data that indicate the changes that have taken place in the structure of the Twin City fluid milk market during the period of (but not necessarily because of) Federal regulation. The data pertain to nearly all aspects of the market's structure, and are difficult to summarize adequately. Persons interested in a particular aspect of the market should read the applicable section. However, several developments are of particular significance. These include: (1) The increasing importance of producer cooperative associations, particularly since 1948; (2) the substantial decline in the number of producers not members of cooperative associations; (3) the increase in the amount of producer milk supplied the market since 1948; (4) the increase in the proportion of the State's dairy cattle population, which is now concentrated in the 16-county area surrounding the Twin City market (with resultant increases in the average size of milking herd, and the quantity of milk shipped per producer); (5) the increase in retail and wholesale sales of fluid skim milk and the decrease in the volume of cream sales since 1946; (6) the elimination of raw milk distributors by State law; (7) the decrease in the number of small handlers serving the market; (8) the gradual but increasing replacement of glass containers by paper cartons; (9) the decrease in importance of regular milk and the shift toward homogenized and Vitamin D fortified milk; (10) the adoption and continued use in Minneapolis of the "Elwell" plan of quantity discounts for home-delivered milk; (11) the relatively high level of producer prices for Class I and Class II milk; and (12) the persistence of the extreme seasonal variation in the size of milk shipments into the fluid market.

An Evaluation of the Efficacy of the Federal Order

Stable marketing conditions. The Twin City market has enjoyed a period of generally stable marketing and pricing conditions during the period of Federal regulation covered in this study. The continued presence in the market of a Federal milk license and a Federal officer undoubtedly served to maintain a greater degree of stability than might otherwise have prevailed between 1934 and 1942, although, contrary to popular belief, the Federal milk license had no part in restoring stability of prices and marketing conditions after the milk price wars and unsettled marketing conditions of the early 1930's. The effectiveness of the early type of Federal regulation was not due to the character and scope of milk licenses, but rather to the desire on the part of the producers' cooperative and the great majority of the Twin City distributors to make it effective in regulating the competitive trade practices of the local fluid milk industry. The skill with which the license was exploited within this framework of market organization indicates that the principal market interests made full use of the limited powers of the license program. The remarkable fact is that the Federal milk license remained the foundation for these actions for a period of 8 years after that program had been replaced as a national program by Federal milk orders. A period of generally rising prices for dairy products undoubtedly contributed to the success of these stabilizing efforts.

Wartime regulation of the local fluid market was comprehensive and absolute enough to force orderly marketing conditions. Probably the most significant developments during this period were (1) the lower level of prices for fluid milk relative to milk used in manufactured dairy products or for milk exported to other markets and (2) an increase in the already extreme seasonal variation in production, caused in part by changes in the average size of herd, by efforts to increase total production with less labor, and by abundant pastures and feed supplies during the spring and summer seasons of the latter years of the period.

Federal Order No. 73 was promulgated, at least in part, as a means of obtaining an adjustment in the price ceilings on producer milk imposed by the OPA during its wartime regulation of prices. After the Price Control Act expired, however, the order remained operative as the pricing mechanism for all fluid milk and milk products sold within the marketing area of the Twin Cities and their suburbs. The stable marketing conditions that have existed in the market since 1945 have been achieved by ruling out those producer pricing and milk procurement practices that in the past had been unstabilizing factors. These favorable marketing and pricing conditions undoubtedly have benefited to some extent those producers who supplied the fluid market with milk since 1945, but the monetary gains to the producer groups probably have not been as substantial as commonly supposed by producer groups not serving the market. Whether the marketing conditions for fluid milk in the Twin City area will continue without direct or indirect price wars will depend to a large extent upon how successfully the officials concerned with the promulgation and administration of the Federal order can deal with certain practices and policies being followed by important producer groups that supply milk to the market. These developments are discussed in greater detail in the following sections.

Adequate Supplies of Milk. Because of its location in one of the most intensive milk-production areas in the United States, the problem of insuring an adequate supply of pure and wholesome milk for the Twin Cities has never been as critical as in those cities away from important milk-production areas. At the same time, the health departments of Minneapolis and St. Paul have always permitted the market to import sizable quantities of "emergency" milk from the numerous plants within 50 miles of the Twin Cities during periods when the regular suppliers did not have enough production to supply distributors. Under these circumstances, the market-wide problem of insuring an adequate supply of pure and wholesome milk (as distinguished from that problem facing an individual producer cooperative) is more one of facilitating the means by which producers can ship into the market than one of adjusting prices to obtain increased production from certain producers.

A serious assertion often made against the Federal milk order program is that it sets up a "monopoly" for producers who shared the market when the orders become effective. The experience in the Minneapolis-St. Paul market offers interesting evidence on this point, for it was not until Federal Order No. 73 had become operative that a number of outlying producer cooperatives did obtain outlets in the local fluid market and offer the dominant producers' cooperative serious competition. This trend has not been without its complications, however, for some of this market entry was encouraged by regulations, which, in part at least, influenced the withdrawal from the market of a number of proprietary handlers supplied by nonmember producers and part of the entry was made possible by the fact that producer cooperative associations appear to have enjoyed a certain competitive advantage. The intricacies of the latter development are covered later in this summary section of the report, but the present status of the market suppliers does indicate that the Twin City milk order by itself has not limited the ability of producer cooperative associations to obtain a share of the local fluid market.

Local health ordinances are one of the factors that must be considered in developing a Federal milk order for a marketing area. The current policy of the health department of Minneapolis is a formalized step toward further guaranteeing that the market will continue to have adequate supplies of milk. Under this policy the health department will (1) inspect and qualify any producer who has an outlet in the market or any producer-member of a number of cooperative associations located throughout the production area both in Minnesota and Wisconsin, and (2) accept as Grade A milk any importations from Grade A milk plants in Wisconsin already qualified for the Chicago market or those plants in Wisconsin so certified by the State Board of Health.

Distribution of milk. The data presented in this report indicate that the number of distributors serving the Twin City market has decreased since 1933. This trend also holds true in other fluid milk markets throughout the United States. Indeed, the trend toward fewer but larger firms is manifest in nearly all lines of economic and business endeavor throughout the country. The trend toward fewer (and larger-scaled) distributors in the Twin City market was under way before the promulgation of Federal milk regulations, and the major changes in this direction are probably a continuation of the development.

Federal Order No. 73, however, has had several direct effects upon the distribution of milk in the Twin Cities, some of which have operated to reduce the number of distributors who supply the marketing area. Prior to the order certain handlers purchased milk from the area surrounding the Twin Cities and sold it to outside markets as well as in the Twin City marketing area. A provision in the original order required handlers to pay the Class I price for all milk sold for fluid (Class I) uses inside the marketing area or within 100 miles of the Twin Cities, and on all milk (regardless of use) sold to markets more than 100 miles from the Twin Cities. Distributors claimed that the level of the Class I price in the order was too high to permit them to operate under the terms of the order and yet compete with nonorder handlers for the outside markets. Therefore, they chose to withdraw from the Twin City market and service only other outlets for fluid milk. Under these circumstances, the handlers who remained in the Twin City market were those whose fluid sales in the marketing area comprised a major outlet for their milk. In addition, the location differential provided for in the original order (but changed in 1949) was calculated in a manner that created disparities among the minimum prices required to be paid by certain handlers with plants outside the marketing area but who normally sold milk inside the marketing area.

Some of the reduction in the number of proprietary handlers supplying the marketing area probably can be attributed to certain key pricing and regulatory provisions of the milk order. Foremost among these are the requirements that the market administrator audit handlers' records to verify the accuracy of their reports on milk receipts and sales and that the market administrator check-weigh and check-test the milk shipped proprietary handlers by nonmember producers. These services are done to ensure that producers receive credit for all milk actually supplied proprietary handlers and that the milk receipts be classified accurately and paid for at prices that at least equal the minimum prices specified by the order. To comply fully with these provisions and still remain operative in the market, proprietary handlers must maintain adequate records, must weigh and test incoming and outgoing shipments accurately, and must process and distribute the resulting products more efficiently than otherwise would be necessary. Indications are that some of the handlers who withdrew from the market did so, at least in part, rather than continue to attempt to comply with all the requirements of the regulation.

The distribution pattern itself may be affected more seriously in the future if certain competitive practices, now permitted under the enabling act, are allowed to develop into widespread use. The practices developed from the attempts of producer cooperative associations to gain a larger share of the fluid market, and they are designed to gain the needed volume of sales by indirectly modifying the minimum prices for Class I milk established by the order. The established pattern prior to the order was for many producers to deliver milk directly to distributors' plants. The distributors weighed and tested the milk, washed the cans, and maintained facilities in their plants for this purpose. The TCMPA supplemented the direct deliveries of members' milk to distributors with tank-truck deliveries of milk or standardized cream from association-owned plants maintained for this purpose. Another practice was that of a producer cooperative that maintained a bottling plant and sold bottled milk to a distributor at prices that appeared to be too low to pay for all costs involved and still return producers the Class I price. The latter two practices have been adopted more widely and intensified by producer associations as "legal" methods of indirectly lowering the minimum prices established by the Federal order for Class I milk sold in the marketing area.

For example, a large producers' cooperative association in Wisconsin has obtained an outlet for fluid milk in the Twin Cities by delivering standardized milk in tank trucks to the plants of two handlers operating under Order No. 73. This milk is priced to the handler at the Class I price specified by the order. Because such milk has already been weighed, tested, and standardized, the receiving handler does not incur the same handling costs incurred by those handlers who receive milk directly from farmers in 10-gallon cans and must perform such services at their own expense. In addition, the requirements of the Grade A milk ordinance are such that many distributors' plants do not contain enough floor space for the number of operations carried on in the plants. In some cases the problem could be met by utilizing the floor space now taken up by the equipment used to receive milk directly from farmers. This possibility has increased the interest of distributors in tank-truck deliveries of milk after the milk has first been received at the plant of the supplying organization. As a result, groups of producers delivering standardized milk in tank-truck quantities achieve the same effect as they would by selling milk directly from farms in cans at an equivalent discount from the legal minimum price.

One supplier attempted to offset this pricing advantage to a handler by allowing handlers a reduction from the order price on milk received directly from producers for the performance of services. However, this practice was interpreted as being in violation of the order. The same interpretation was placed upon an attempt to meet the problem by charging handlers the full order price but paying them a fee for services performed. A net result is that all handlers do not pay the same "price" for Class I milk.

Another variation of this same practice is for supplier groups to build and operate bottling plants. The milk is sold by the producer groups in bottled form to stores at prices that are slightly higher than the Class I order price, but which apparently are too low to cover the full cost of the services added. This practice permits the stores that patronize such a supplier to sell milk at a lower price than would be possible if producers were paid the order price for milk without services. Distributors who purchase milk (without services) at order prices and process it themselves are placed at a competitive disadvantage with (1) distributors who receive standardized milk in tank-truck deliveries and (2) with stores which purchase bottled milk from producer cooperative associations with bottling plants. The competitive advantage could be large enough that other cooperative associations would shift from selling milk in bulk form to processing and bottling milk in their own plants and selling it to distributors on a similar pricing basis. During this period, the prices set by the Federal order did little more than establish a level from which the various producer cooperatives would begin to cut prices. Producer cooperatives have been able to engage in this form of competition because the Agricultural Marketing Agreement Act provides that a Federal order shall not prevent cooperatives from paying producers a blend price from the net proceeds of all their sales, provided no sales are made to handlers at less than the minimum class prices. They have found it expedient to do so under the terms of Order No. 73, particularly the individual-handler pool.

Prices for Producer Milk. An avowed purpose of the various Federal milk marketing programs since 1933 has been to increase and stabilize the level of producer prices for milk supplied fluid markets. The minimum prices established under the original Federal License No. 5 were at the general level of producer prices already established in the market by negotiation between the TCMPA and its contracting distributors. Except for the period between February 1934 and August 1935, indications are that the regulation and its successor was not a vehicle for effecting actual increases in producer prices beyond those that might have prevailed without the minimum pricing provisions of the Federal licenses. The existence of a price "floor" might have discouraged price cutting to a certain extent, but the greatest part of whatever gains producers and distributors might have realized from the generally stabilized market during the license period resulted from the peculiar structure of the local fluid market and the desires of the dominant market interests rather than from the price-making efficacy of the licenses, per se.

The prices for producer milk during the wartime period of Federal regulation were held at a lower level than would otherwise have prevailed under the existing conditions of strong demand for fluid milk and fluid milk products. Because this action was part of a broader national policy of price and wage controls, however, milk producers in the Twin City market were not unduly disadvantaged relative to other segments of the economy or the dairy industry in the area.

Since 1945 the Federal milk order has been the determinant of legal minimum prices for producer milk supplied the Twin City market. Indications are that the nominal class prices for milk subject to this order have been fixed at a somewhat higher level than would otherwise have prevailed. This evaluation of the level of producer prices during the period 1945-50 is suggested by the following developments:

(1) The level of Class I prices is attractive enough that an increasing number of producer cooperative associations within 45 miles of the Twin Cities are making an active bid for a share of the fluid sales.

(2) A number of associations perform a number of services for handlers, yet charge them only the Class I price for the milk plus services.

(3) The prices for surplus milk were higher than those paid by manufacturing plants in the area, higher than could be obtained by handlers for milk diverted to other manufacturing plants, higher in most cases than those set for milk for comparable uses by Federal milk orders in the region, and reflected a handling allowance that, when used with the class prices, yielded product prices that were above the current market.

(4) The level of class prices appears to have been an element in the withdrawal from the market of several handlers. Some handlers who had a small part of Class I sales in the local marketing area found it to their advantage to withdraw from the market rather than to pay Class I prices for all their sales. All handlers who purchased milk from nonmember producers, and thus unavoidably had Class II milk, withdrew from the market during the period since 1945.

(5) The blend prices paid producer members by cooperative associations subject to Order No. 73 have been lower than the uniform price computed for the associations by the market administrator--prices which resulted from class prices the associations themselves proposed and approved.

An intensification of these developments would constitute a serious threat to the existing equilibrium of the Twin City fluid milk market.

At present, the threat is mitigated somewhat by the fact that nearly all the milk entering the fluid market is supplied handlers (in the quantities needed) by producer cooperative associations without competition from proprietary handlers supplied by nonmember producers. Since all qualified associations in the market benefit from the provisions of the enabling act which permit them to blend the net proceeds from all sales when paying producer-members, the associations can compete with one another by providing services rather than cutting prices directly. Whether the producer groups can intensify, or even continue, these practices without disrupting market stability is a moot question. Under economic conditions of that period, however, it appears that a downward adjustment in the level of class prices, particularly Class I prices, would have relieved much of the pressure of one of the unstabilizing forces in the local market. It is most likely that any such changes would not have lowered materially the level of prices actually received by individual producers (as distinguished from their associations).

Other effects. The programs for Federal regulation of the Twin City market have had certain other effects upon the local fluid milk industry:

(1) The pricing provisions of the Federal order have helped reduce the conflict between the producer groups and the handlers. Formerly producer groups and distributors negotiated directly with each other for each change in producer prices. Today, minimum prices are set by the Secretary of Agriculture, on the basis of evidence submitted by both producer groups and handlers at public hearings open to receiving testimony from any parties in accordance with procedures laid down by the Secretary of Agriculture and the Administrative Procedures Act of 1946. The formulas reduce the frequency with which these public hearings must be held. However, the producer cooperative still plays an important role in determining producer prices, since someone must propose the terms of an order, request its issuance, present evidence supporting it at public hearings, and vote its approval before an order can become effective or can be amended. The producer cooperatives invariably have performed these functions.

(2) Order No. 73 has been instrumental in strengthening the position of producer cooperatives in the Twin City market. It appears that these gains have been accompanied by a decline in the importance of those proprietary handlers who relied upon nonmember producers for their milk supply.

The order has not benefited all producer cooperatives that at one time or another supplied milk or cream to Twin City distributors. Many small cooperatives who supplied small quantities of cream to distributors during the period before 1946 withdrew from the market shortly after Order No. 73 became effective rather than bring their entire operations under its pricing and auditing provisions. Also, it appears that some of these associations had obtained outlets for cream sales by offering a price advantage to distributors. When such handlers were required by the order to pay at least the minimum prices, they chose to get their supplies from associations that seemed more reliable as to quantity and quality of cream supplied. The associations that remained in the market also benefited by the withdrawal from the market of proprietary handlers who purchased milk from nonmember producers. The dominant producers' cooperative maintained and even strengthened its market position throughout this early period of increasing governmental regulation. However, the earlier competition of nonmember producers was soon replaced by competition from other producer cooperatives who received health department approval (in the case of milk) and who qualified as cooperative associations under the operation of the order. The associations now entering the market are challenging the dominance of the TCMPA, and whatever gains are made by them will of course be at the expense of the association and the other cooperatives now supplying the market.

(3) The Federal regulations, including milk licenses, the OPA, and the milk order, have had a varied effect upon the wholesale and retail prices of milk and milk products. Such prices were held at a somewhat lower level than would otherwise have prevailed during the period of wartime regulation and price control. Except for the period between September 1933 and August 1935, the Federal milk licenses had little if any effect upon the level of wholesale and retail prices. Order No. 73 probably has helped to maintain the prices of fluid milk and cream and fluid milk products at a somewhat higher level than would otherwise have been possible, although there is no evidence that levels of consumption have been effected significantly by the level of consumer prices. Then, too, the price competition among the producer cooperatives undoubtedly has helped hold down the level of prices paid by consumers for milk in the Twin City area.

(4) Many of the price changes effected by the order were done on the basis that they were necessary to correct the extreme seasonal variations in milk production in the local market; yet an examination of the production trends indicates that the pricing differentials alone are not bringing forth the seasonal adjustments in production considered desirable by the principal suppliers of fluid milk.

(5) A valuable byproduct of the milk order has been the abundance of accurate statistical data pertaining to the supply, utilization, distribution, and prices of milk and its products in the marketing area. Most of the data available before this time were limited to the operations of only a segment of the fluid industry or else provided quantitative data based on estimations of production and utilization on a State-wide or county-wide basis. The data now being collected are valuable sources of information for those concerned with the local market. When combined with similar data from the other large markets under similar regulations, the statistics are also important source data for research workers and others who prepare information and reports of interest and importance to the industry as well as to the general public.

In many important respects, these data lack comparability. Greater comparability will permit research workers, administrators, and other interested persons to make more valid comparisons between markets as well as in combination for industry-wide purposes. These published statistics are indeed important, yet the records of the market administrators contain much more detailed and accurate data, which some day will be invaluable for studies on the consumption and distribution of fluid milk and fluid milk products. These same data were previously obtained only by estimation after resort to statistical sampling methods and generalization of the results to the entire population. Probably no other major segment of the agricultural industry has this opportunity to base studies and decisions on such accurate data.

(6) Those features of the order which require the auditing of handlers' records and the check-weighing and check-testing of producers' milk have helped ensure that handlers pay the producers' associations and the nonmember producers the full value for all milk delivered and used in each classification. The audits of handlers' records permit the market administrator to determine the amount of milk used in each class by each handler and to determine if it was paid for at the applicable class prices.

The check-weighing and check-testing of milk shipped handlers by nonmember producers are intended to ensure that producers' shipments are accurately weighed for volume and tested for butterfat content. The cost of rendering this service is borne by producers by the deduction of a 2-cent marketing service assessment from their returns. The audits provide still another check on the handlers' operating methods in the sense that total sales of butterfat and skim milk are compared with total purchases of these components of milk. After adjustments for inventory variation, it is possible to determine the amount of plant loss and shrinkage suffered by each handler. In some cases, these data have indicated that handlers disposed of more products than were purchased and paid for. Under these circumstances, the market administrator calculates the value of the "overstated sales" and requires the handler concerned to reimburse his producers that amount. If any of the milk was received from a producers' cooperative, the supplying association, in turn, adds the money to its producers' pool. This system is quite comprehensive and a substantial protection to the nonmember producers and to the cooperative associations that supply milk to handlers.

One of the most serious problems in the local market has been the relationship of the producer cooperative associations to the marketing services provision of the Federal order. The order specifies that producers who are members of qualified cooperative associations shall not be required to pay the 2-cent marketing service deduction (used for verification of weights, sampling, and testing of milk and for market information) on the basis that the cooperative performs these services itself for its member-producers. The member of a cooperative bears the cost of this service rendered by the association by payment of a membership fee and by bearing a prorata share of the operating costs of the cooperative.

The problem in the local market is that certain cooperative associations have experienced "overstated sales" of considerable monetary value during the years 1947-50 (the period for which we have accurate data). The extent of these "overstated sales" has increased considerably, and totaled more than $24,000 during 1950. The check-weighing and check-testing provisions of the order were designed to protect individual producers against the underweighing and undertesting of milk shipped to handlers--a practice that would result in "overstated sales" for the handler concerned.

The market administrator is directed by the terms of the order to check-weigh and check-test the milk shipped to proprietary handlers by nonmember producers. The market administrator does not check-weigh and check-test the milk shipped to plants of qualified producer cooperative associations, however, nor does he have the power to require cooperative associations to compensate individual producers for any underpayments for milk that might result from the underweighing and undertesting of milk shipments. This situation creates another area in which the regulation does not treat all handlers alike. There might be some question as to whether these practices are consistent with the privileges accorded cooperatives under the act, and whether the most appropriate method of correcting the situation would be to withdraw their qualification, thereby placing them on equal status with proprietary handlers.

Many handlers objected to the auditing of their records by the market administrator's office, yet the results of the audits have been of inestimable value to a number of handlers. In some cases the handlers were required to modify accounting procedures to the extent that accurate records and accurate operational data were available to them for the first time. In other cases the market administrator's audits revealed glaring losses of butterfat during plant operations--losses that totaled as much as from 5,000 to 7,000 pounds of butterfat in a month's time. A number of tests run on samples of furnished products also revealed a wide variation in butterfat content, and handlers were advised of this condition. The correction of these and other inefficiencies has improved the financial structure and competitive strength of individual distributors, with resultant gains to the marketing system.

Although the results from the Federal milk order program have been quite beneficial to date, the full efficacy of the program has not yet been tested by the declining phase of a serious depression where drastically falling agricultural prices are coincident with a general decline in business activity and employment. However, the long-time success of this Federal regulation will depend in large measure upon how well the public interest is served. If fluid milk distribution continues to be concentrated in "firm" hands, Federal regulation of producer prices through milk orders can continue to serve as an important equalizer of bargaining power while helping assure that minimum prices are fixed in the public interest.

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APPENDIX

Table 52.--Minimum price established for Class II milk, per hundredweight of 3.5 percent milk, Order No. 73, Minneapolis-St. Paul marketing area, by months, 1946-50

Month	1946	1947	1948	1949	1950
	Dollars	Dollars	Dollars	Dollars	Dollars
January	2.657	3.451	4.275	3.250	3.124
February	2.673	3.569	4.257	3.072	3.128
March	2.669	3.299	4.104	3.012	3.011
April	2.663	2.971	4.172	2.959	2.992
May	2.662	2.896	4.103	3.007	3.003
June	2.879	3.010	4.148	2.997	3.004
July	3.646	3.197	4.134	3.042	3.030
August	3.712	3.502	4.063	3.097	[1] 3.065
September	3.977	3.784	3.790	3.160	3.074
October	4.293	3.444	3.457	3.158	3.098
November	4.190	3.921	3.401	3.167	3.119
December	4.204	4.427	3.486	3.193	3.210
Average	3.352	3.456	3.949	3.093	3.069

[1] Price for period August 1-15. Price for period August 16-31 was $3.005.

Compiled from reports of the Market Administrator.

Table 53.--Prices established for Class I milk, Minneapolis-St. Paul marketing area, by each of the alternative "basic" formulas, per hundredweight of 3.5 percent milk, Order No. 73, by months, 1946-50

Month	1946			1947			1948			1949			1950		
	Butter powder	Condens-ery pay	Butter cheese	Butter powder	Condens-ery pay	Butter cheese	Butter powder	Condens-ery pay	Butter cheese	Butter powder	Condens-ery pay	Butter cheese	Butter powder	Condens-ery pay	Butter cheese
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Jan.	3.157	1/3.172	2.764	3.951	1/4.367	3.718	4.775	1/4.817	4.528	1/3.750	3.568	3.463	1/3.624	3.4929	3.438
Feb.	3.173	1/3.208	2.764	1/4.069	3.554	3.881	1/4.757	4.685	4.446	1/3.572	3.356	3.454	1/3.628	3.422	3.476
Mar.	3.169	1/3.224	2.764	3.799	1/4.021	3.807	1/4.604	4.507	4.252	1/3.512	3.271	3.366	1/3.511	3.410	3.354
Apr.	3.163	1/3.260	2.764	3.471	1/3.878	3.507	1/4.672	4.558	4.389	1/3.459	3.261	3.303	1/3.492	3.361	3.322
May	3.062	1/3.179	2.664	3.296	1/3.419	3.291	4.503	1/4.528	4.266	1/3.507	3.268	3.334	1/3.503	3.317	3.332
June	3.379	1/3.414	2.998	3.410	3.375	1/3.420	4.548	1/4.563	4.309	1/3.497	3.275	3.322	1/3.504	3.269	3.339
July	1/4.346	4.321	4.077	3.897	3.842	1/3.918	4.834	1/5.061	4.604	1/3.742	3.494	3.545	1/3.730	3.478	3.560
Aug.	4.412	1/4.433	4.143	4.202	4.024	1/4.216	4.763	1/4.993	4.483	1/4.097	3.871	3.936	1/4.065 2/	3/3.869	4/3.899
Sept.	4.677	1/4.903	4.456	1/4.484	4.278	4.483	4.490	1/4.685	4.174	1/4.160	3.874	3.952	1/3.924	3.810	3.825
Oct.	4.993	1/5.100	4.759	4.144	1/4.325	4.158	4.157	1/4.177	3.785	1/4.158	3.874	3.950	1/3.948	3.867	3.863
Nov.	4.890	1/5.246	4.651	1/4.621	4.506	4.506	1/4.101	4.017	3.727	1/4.167	3.931	3.968	3.969	1/3.971	3.897
Dec.	4.904	1/5.003	4.594	1/5.127	4.844	4.869	1/4.186	4.049	3.837	1/3.893	3.651	3.691	3.910	1/4.109	3.872
Av.	3.9438	4.0386	3.6165	4.0392	4.0361	3.9811	4.5325	4.5533	4.2333	1/3.793	3.558	3.607	3.725	3.608	3.592

1/ The price indicated is the highest price obtained from the three formulas, and the one that actually prevailed in the market as the Class I price for the corresponding month.

2/ Effective for period August 1-15. Price for period August 16-31 was $3.855.

3/ Effective for period August 1-15. Price for period August 16-31 was $3.719.

4/ Effective for period August 1-15. Price for period August 16-31 was $3.749.

Table 54.--Price differential established for Class I milk (over the basic price), per hundredweight of 3.5 percent milk, Order No. 73, Minneapolis-St. Paul marketing area, by months, 1946-50

Month	1946	1947	1948	1949	1950
	Dollars	Dollars	Dollars	Dollars	Dollars
January	0.50	0.50	0.50	0.50	0.50
February	.50	.50	.50	.50	.50
March	.50	.50	.50	.50	.50
April	.50	.50	.50	.50	.50
May	.40	.40	.40	.50	.50
June	.50	.40	.40	.50	.50
July	.70	.70	.70	.70	.70
August	.70	.70	.70	1.00	1/ 1.00
September	.70	.70	.70	1.00	.85
October	.70	.70	.70	1.00	.85
November	.70	.70	.70	1.00	.85
December	.70	.70	.70	.70	.70

1/ Effective August 1-15. Price differential for August 16-31 was $0.85.

Compiled from reports of the Market Administrator.

Table 55.--Percentage of butterfat in producer milk, Minneapolis-St. Paul marketing area, by months, 1946-50

Month	1946	1947	1948	1949	1950
	Percent	Percent	Percent	Percent	Percent
January	3.667	3.590	3.612	3.647	3.599
February	3.625	3.572	3.597	3.627	3.586
March	3.602	3.571	3.589	3.609	3.592
April	3.575	3.581	3.568	3.595	3.614
May	3.594	3.631	3.599	3.618	3.639
June	3.600	3.603	3.571	3.589	3.596
July	3.655	3.654	3.660	3.642	3.654
August	3.719	3.734	3.740	3.684	3.688
September	3.886	3.808	3.784	3.859	3.776
October	3.855	3.790	3.850	3.841	3.791
November	3.724	3.749	3.742	3.715	3.708
December	3.655	3.659	3.689	3.640	3.676
Average 1/	3.662	3.644	3.653	3.657	3.648

1/ Butterfat tests of yearly producer receipts.

Compiled from reports of the Market Administrator.

Table 56.--Dairy production payments per hundredweight of milk, Minnesota, October 1943-June 1946

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1943										30	30	30
1944	35	35	50	50	35	35	35	35	60	60	60	60
1945	60	60	60	60	25	25	45	45	45	60	60	60
1946	60	60	60	60	45	45						

Compiled from Dairy Production Program Statistics, PMA, December 1946.

Table 57.--Producers' butterfat differential for each one-tenth of one percent variation from 3.5 percent, per hundredweight of milk, Minneapolis-St. Paul marketing area, by months, 1946-50

Month	1946	1947	1948	1949	1950
	Dollars	Dollars	Dollars	Dollars	Dollars
January	0.056	0.081	0.103	0.076	0.076
February	.057	.086	.101	.077	.077
March	.057	.084	.097	.074	.073
April	.056	.076	.100	.072	.073
May	.057	.075	.098	.073	.073
June	.063	.078	.099	.072	.073
July	.085	.083	.098	.074	.074
August	.086	.092	.095	.076	.075
September	.094	.099	.087	.076	.077
October	.103	.088	.078	.076	.078
November	.100	.098	.076	.076	.078
December	.100	.108	.079	.077	.081
Average	0.0762	0.0873	0.0926	0.0749	0.0757

Compiled from reports of the Market Administrator.

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Other Dairy Branch Publications Available

(1) Flexibility of Operation in Dairy Manufacturing Plants, Joseph M. Cowden and Harry C. Trelogan, September 1948.

(2) The Pricing of Surplus Milk in the Chicago Market, Robert W. March, November 1949.

(3) The Philadelphia Milk Supply, July 1950.

(4) History and Analysis of Milk Supply Problems in the St. Louis Market, Glenn W. Freemyer, GPO-O-PMA 256, October 1950.

(5) Federal Milk Marketing Orders and Dairy Programs in World War II, Gertrude G. Foelsch, Agriculture Monograph No. 12, August 1951.

(6) Federal Regulation of Milk Marketing in the Duluth-Superior Area, Edmond S. Harris and Joel L. Blum, AIB No. 68, August 1951.

(7) Early Development of Milk Marketing Plans in the Kansas City, Mo., Area, Edmond S. Harris, May 1952.